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OUR SCHOOLS TO ENGLISH EYES

A correspondent has contributed to two recent issues of the *London Times Educational Supplement* an interpretation of our system of elementary and secondary schools. The articles, appearing under the caption "American Tendencies Surveyed," are unusually informative. Because observations by outsiders are often helpful to an appreciation of conditions at home, it seems desirable to quote at some length from this sympathetic interpretation.

Of the quantity of American education, at least, there can be no doubt. There are 238,000 public elementary schools containing over 21,000,000 pupils, and 24,000 public high schools, junior and senior, holding 4,500,000 students. The public elementary schools employ 640,000 teachers and the public high schools 213,000 teachers. Nearly \$2,500,000,000, or 24 per cent, of the total income and tax collections of federal, state, and local governments are devoted to the support of public education, at an average cost of over \$180 for each student in the high schools and of \$63 for each child in the elementary schools; while the property valuation of the land, buildings, and equipment of all public schools is well over \$6,000,000,000, or more than 7 per cent of the taxable property in the United States.

Beside these colossal figures the private and denominational schools sink into comparative unimportance. It is, of course, true that, at least in the New England and Middle Atlantic States, the prestige of the great and famous preparatory schools and the fact that they are accustomed to recruit the sons of the

wealthier classes, boys who after a college education will be likely to take up positions of importance, give these schools a social significance that is not reflected in mere numbers. But in the last fifteen years even this privileged position has been steadily declining in importance. . . . The only denominational schools that have come near to rivaling the spectacular growth of the public schools are the Roman Catholic schools, and they contain but a small fraction of the school population. Undoubtedly, in the United States, in a sense that is not true of any Western European state, the future of education lies with the free tax-supported public schools.

The center of gravity can be even more exactly located. In 1870 not more than 25 per cent of American citizens lived in towns and cities of over 2,500. In 1930 the proportion had increased to 75 per cent. It is true that the rapid decrease in the birth-rate in the cities has not been paralleled in the rural areas; thus there is a considerably higher proportion of children of eighteen and under to adults in country districts than there is in the towns and cities. On the other hand, more than 75 per cent of the children between fifteen and eighteen in towns and cities are in high schools, whereas not more than a third of the same age group in rural areas has a similar record. And, at the same time as this age group is being more fully drawn into the rural high schools, these schools themselves are developing in imitation of the city school. The typical rural school is still the one-teacher or two-teacher school with from ten to one hundred pupils of all grades. As the result of a democratic policy to equalize educational opportunities, as a greater share of state taxes is diverted to their needs, and as traveling facilities increase, these small rural schools are being replaced by consolidated schools, units which, if not as large as the city school, are designed in their pattern. The symbol of American educational enterprise is the large town or city school with from five hundred to ten thousand students enjoying free education up to the age of sixteen, seventeen, or eighteen.

Education in the United States is a state, not a federal, undertaking. By the Constitution the states are severally charged with the responsibility for education; the federal government was originally excluded from all share in it. . . .

Because of this state autonomy in education there is the greatest diversity of practice throughout the country, as a cursory inspection of state laws proves. For instance, the number of years of school attendance required by particular states ranges from six years to twelve years (apart from two exceptional states in which it is only four years); while the lower age limit for school attendance varies from six years of age to eight, and the upper limit from age fourteen to eighteen (though there are again two exceptional states with upper limit of twelve). Nevertheless the states group themselves into fairly clearly-defined sections of the whole country, since the educational problems with which each state has to deal are really expressions of economic conditions and historical factors that over-run state boundaries. Thus the problem of negro education in one particular form is common to all the "southern states," and this with other characteristics defines this section of the country. When American education is ex-

amined in this way by sections of the country, it becomes obvious that a remarkable geographical shift has occurred in the democratic leadership in education. When the movement for a free tax-supported common elementary school gathered way during the first half of the last century, it was New England, chiefly Massachusetts under Horace Mann, and Connecticut under Henry Barnard, that supplied the leadership. But today that which is most American, that which will most surely mold the future of America, is to be found no longer on the East Coast, but in the Middle West and on the Pacific, especially in California, and it is from these younger states that new educational influences are flooding back to the reluctant East. . . .

And yet, in spite of the constitutional differences due to state boundaries and of larger sectional differences, there are powerful forces that have tended towards a remarkable homogeneity in American education. . . . The big cities indeed have in large measure preserved their independence and organized their own systems, but the model in its strength and weakness is the same. . . . In a city school system the superintendent is indeed responsible for general matters of policy and administration to the school board, but he is an expert among laymen and can be almost completely autocratic. He has under him a number of assistant superintendents, and this cabinet in effect runs the whole system in its minutest detail. The principal of a school is too often only the local official for executing decisions. . . .

Another factor has greatly tended towards a certain homogeneity in American public schools. Educational administrators, principals, heads of departments are increasingly being selected from those who have received graduate training in university schools of education. Of these Columbia in New York, Chicago, and Stanford and the University of California in the West are the outstanding leaders. The influence of these institutions is immediately traceable whatever school system one visits. Furthermore, teachers who desire promotion, or sometimes even retention, have to produce satisfactory evidence of "professional growth." They read professional magazines and textbooks; they attend conferences; they engage in research; they serve on committees; they take part in debates. As a result there is throughout American public schools a considerable acquaintance with experiments that are being conducted in far distant parts, and this awareness is all the more eager because of the American ambition to seize on to the newest thing.

Thirdly, the American teacher is consciously an American citizen rather than a state or city employee. The problem of the melting-pot is finding its solution chiefly through the system of public education. Faced in a big city with students of the utmost racial diversity, the teacher is inspired with an attitude and a purpose that at once identifies him with the teachers of other cities. . . .

The quality of American public education is to Americans a contentious matter, and to outside observers an elusive problem. If a visitor were content to retain the standards that are fixed in England by public examinations and by university-entrance and scholarship requirements, he would quickly arrive at con-

clusions that were unflattering to America. He would condemn as extravagant much of the vast outpouring of money by city, state, and federal governments; and he would identify himself with that body of opinion still to be found in New England, from which American educational thought has in general long been weaned. Such a judgment, however, would be irrelevant, for American education has had little of the continuity that has been characteristic of the English educational tradition. Its history proceeds by jerks and violent changes of direction, and at each fresh turn something has been rejected of the European heritage in which till the end of the eighteenth century America fully shared. . . .

When . . . from the 1830's, in response to the call of Horace Mann, Henry Barnard, and others, free tax-supported elementary schools were being established in most urban and rural communities, their scope was practically limited to the three R's, since more advanced subjects were already the prerogative of the academies.

This practice was not altogether unfitting to the popular needs at that time, for the country was little developed. Education had made but slight headway outside the leading families, and for the common man there was neither leisure nor means to support more than the simplest life. Unfortunately, the meagerness of the elementary curriculum was accentuated during this period by the adoption from Prussia (though a native origin is also claimed) of the organization of the *Volksschule*. This was an eight-year school intended for the lower classes and thus restricted to rudimentary and vernacular subjects. . . .

This eight-year elementary school was retained well into the present century, the curriculum being stiffened chiefly by the expansion of the work in English and history and by the introduction of such new subjects as hygiene, elementary civics, general science, etc. Meantime the free tax-supported four-year secondary school was passing through its most rapid stage of development. Into it more and more students were pouring from the elementary school, and every year a larger proportion of its graduating class proceeded to the free tax-supported college of the state university. . . .

The public high school was at first usually a four-year school, including Grades IX-XII. Since 1908 there has emerged the junior high school as a buffer between the new shortened elementary school and the high school. This change has given rise to many forms of local organization, of which the chief are the 6-3-3-year plan, the 6-2-4-year plan, and the 6-6-year plan, and even where, as in the last case, the whole of the secondary-school period is contained within one organization, the first two or three years of the total six are usually differentiated so as to be parallel with junior high school work. The function of the junior high school is to continue the common education of the elementary school and to provide a period for orientation during which the student may discover his aptitudes and inclinations for the numerous courses and fields of study in the senior school. In this respect, too, the junior high school is really an institution devised to correct faults in the original structure. Under the system of elections once power-

fully advocated by President Eliot of Harvard, whereby high schools offered as many as 150 courses in all manner of subjects, intellectual, manual, and vocational, it was inevitable that bewildered pupils often seeking the easiest path to tread should collect credits for completely unrelated courses, so that their educational records in the end suggested curious pieces of patchwork. The junior high school, by exploring the pupil's potentialities, is able at its best to direct his energy and interests into sensibly related channels, and this advantage, coupled with the increasing insistence in high schools on certain norms as the core of students' programs, has very greatly increased the coherence and quality of secondary education.

Nevertheless, these two weaknesses, the meagerness of the elementary curriculum as a foundation for the ambitious secondary curriculum, and the heterogeneity of the secondary courses and the haphazard manner in which they are too often strung together in pupils' records, remain in the worse school systems no less than in the past, while in the better systems they present a danger difficult to avoid. The situation is aggravated by the impersonal nature of city schools of such enormous size. It is not the prolonged influence of teachers upon maturing minds that is valued in measuring a pupil's progress, but the amount of ground covered; and pupils and teachers have little contact with each other outside school periods except perhaps in the rather artificial good fellowship of clubs and various organized activities. To induce a rather less frigid and official atmosphere and to secure a whole view of the student, school systems have adopted many expedients—home rooms, the appointment of deans of boys and of girls, educational guidance, vocational guidance, life-advisement, social gatherings of many kinds, and, to meet extreme cases, the appointment of school psychologists, psychiatrists, and social workers.

None of these expedients attack the central problem of unifying and integrating the schools. This could only be achieved by so drastically reducing the schools in size that a corporate spirit, apprehensible by less artificial means than are now necessary, might make them coherent units, each characterized by particular qualities arising from personal and local influences, but there is no sign at present of any move in this direction. On the other hand, it must be emphasized that sheer size and the consequent variety of subjects that could be offered have been important factors in drawing pupils into the secondary schools and in retaining so large a proportion of them until graduation. . . .

Of the teachers themselves and of the quality of teaching it is not wise to write until the full survey of teachers' qualifications and training, undertaken by the Office of Education, has been published. To a visitor the fact that more than three-quarters of the teachers in the public service are women seems to be dangerous, and this the more that the recent increase in the enrolment of men is directly traceable to the depression, and so is presumably only a temporary improvement. In the elementary school, and especially in the first three grades, American education in the hands of women teachers is seen at its best. More thought and more research have been directed to this level than to the secondary

school, and the American social genius with its kindly expansiveness is peculiarly suited to this work. But in the top grades of the huge coeducational city high schools the preponderance of women teachers is not so happy an arrangement, and there is a widespread feeling among students and parents that at this level it would be better that girls should be taught by men rather than boys by women.

The qualifications demanded of teachers vary from state to state. Only one state insists that teachers in the secondary school should have completed one year's work after college, and in some states graduation from high school, with two years' special training, is considered sufficient. But almost every year, especially during the last four years of depression, some advance is made. . . . The public-school system is already within sight of its fullest possible expansion, and there is no doubt that, after this point has been reached, the quality of teachers will be consolidated at a higher level than it is now possible to achieve.

In short, the attainment of "quality" in American public education depends now on a period of tranquillity after the enthusiastic bustle that has attended the remarkable growth of the last twenty-five years. When the reorganization at present under way has been completed, when there will be no temptation to estimate success in terms of larger and still larger schools, and when the pick of those who are now being benefited by the most ambitious secondary educational venture in the world, return to teach in the reorganized schools, the system can be more fairly judged.

We shall leave it largely to the reader to take exception to what he may regard as misstatements of fact or as misinterpretations and shall comment on the content of the articles in two respects only.

In the first place, the observer has taken no account of the vigorous movement, contemporaneous with junior high school reorganization, to extend the secondary school upward to include two college years. No observer should so completely neglect an institution the examples of which now number five hundred and which enrol more than a hundred thousand students.

In the second place, we note the recurrent deploring of high schools with large enrolments—"with from five hundred to ten thousand students." It is in the tradition both here and abroad to disparage these large enrolments, although no evidence is at hand to establish the superiority of smaller schools. On the other hand, there is some justification for the belief that schools in this country with enrolments of fewer than five hundred pupils cannot present an adequately diversified offering—a problem that does not confront the selective European secondary school. In the absence of evidence it

does not seem unreasonable to contend that arrangements of a school to penetrate to the individual pupil can be devised to offset disadvantages of size, although in the same breath we may hasten to set beside this contention the admission that probably few, if any, large schools have yet instituted adequate arrangements for the purpose. The question of optimum size of school and the problem of the means of penetrating to the individual irrespective of the size of the school offer salient and promising fields for investigation.

THE UPTURN IN ENROLMENTS OF HIGHER INSTITUTIONS

The educational world at the higher level is much encouraged at the rather prevalent recovery of enrolments this autumn from the low figures of the past few years. The upturn was predicted in September by a poll of representative colleges and universities made by the United Press and reported by the *New York Sun*. The prediction has been borne out by actual figures for this year and by comparisons with corresponding figures for the past year. For example, Eunice Barnard in the *New York Times* reports comparative enrolments for sixty representative institutions, fifty of which show increases and only ten declines. Moreover, most of the increases range from 4 or 5 per cent up to 10 or 12 per cent, while in only a single instance does the decline exceed 4 per cent.

Speculation over the factors of the upturn usually includes mention of the more optimistic state of mind of the populace as compared with the demoralization of 1933. Certainly, the registration has been to some extent affected by federal relief funds, which this year provide needy students with jobs at fifteen dollars a month. This factor may account for all the increase in some institutions. However, some administrators believe that this influence is easily overestimated, since the amount of aid thus provided helps only students who need funds to add to resources already available to carry them along. Mention is sometimes made of an augmented tendency for students from other sections to enrol in certain well-known southern institutions, where costs of attendance are reported to be lower.

In the widespread congratulations on the upturn it should be kept in mind that most of the institutions are still far from the peak of a few years back and that the public high schools from which college

students come have more pupils than ever and are still struggling—rather ineffectively at best—with the difficult problem presented by the needs of the postgraduate student.

ADVICE ON PUPIL STRIKES

The eruption in recent months of pupil strikes in high schools here and there in the country moves the editor of the *Scholastic*, a weekly for high-school pupils, to give some homely advice to his readers on the subject "What Is Worth Striking For?" Because the editorial contains, by implication, good advice for principal and teacher, we quote it in full.

In a country where serious industrial strikes are an almost daily occurrence, and where scarcely a community has been untouched by the strife between capital and labor, it is not surprising that high-school students have occasionally adopted the traditional weapon of adult workers as a means of protest against real or fancied grievances. Organized group movements are in the air, and students are no more immune than other people to the contagion of social unrest. A wave of student strikes, in cities from east to west, has made good "copy" for the newspapers.

A strike is not a lark, whether in a school, a factory, or a farm. Those who consider using it should think twice about their aims, their methods, and the possible effects. Is absenting themselves from classes by students a practical equivalent to the withdrawal of essential workers from their jobs? Do students ever suffer from the kind of pressure that bears on people whose livelihood is at stake? After all, students of public schools are receiving certain benefits at the expense of the community. By striking they reduce by so much the length and efficiency of their own education. They waste the funds of their parents and other taxpayers and undermine the public's willingness to support free schools. They may cause damage to the community's welfare and make a general nuisance of themselves.

A strike should be a last resort, and students owe it to their school to exhaust other means of gaining their ends, first by written petitions, then by requesting a formal hearing for a student committee, or perhaps by enlisting their parents' support. No genuine educator will hesitate to take students into his confidence and to give them every possible opportunity for uncoerced organization and free expression of opinion. American students have had too little training in public discussion and are often too ready to accept docilely any program, no matter how arbitrary.

The objects of most student strikes of which we have knowledge concern: (1) hours of attendance and amount of home work (as in the recent strikes at Brockton and Bridgeport); (2) cost of textbooks, special fees, etc.; (3) prices or quality of food in cafeterias; (4) location of schools; (5) general dissatisfaction with ad-

ministration or faculty policies; (6) protest against the dismissal of favorite teachers, coaches, or principals, or expulsion of popular fellow-students. There may be excellent reasons, beyond the control of the school officials and unknown to the student body, why some of these things are necessary. And again, the burden of administrative problems may lead school men to neglect the students' point of view on rulings or conditions which work hardship.

It is clear that many students' strikes arise out of trivial complaints which could, and should, be adjusted without stoppage of classes. In one school where students struck because they had no trained football coach and the playing field was stony, a real student leader would have had the whole school out there some Saturday to clean off stones.

There are plenty of things a student body might work for by orderly methods that would add to educational progress, for instance, improved curriculums; better trained and better paid teachers; modern library facilities; broadly based vocational guidance; creative work in the arts and healthful intramural sports; above all, against that false conception of public economy which has hamstrung many of our schools in the last few depression years. There are, furthermore, great social issues of the day beyond the immediate jurisdiction of the schools—war, Fascism, unemployment, good government. We do not advise the use of strikes as means to attack these problems, but we do suggest that mass-meetings outside of school hours for open discussion and public dramatization of such issues are eminently educational activities.

EDUCATION IN THE CIVILIAN CONSERVATION CORPS

Following is a statement, quoted from the *United States News*, of the purposes and the plan of operation of the educational program being carried on in connection with the Civilian Conservation Corps. As described, the program is inspiring and prophetic of the possibilities in these camps, although it also gives the partial impression of having been developed as an afterthought and of being too largely dependent on charitable proclivities of voluntary workers. Persons objectively minded will hope that in time the authorities in charge will make and report careful studies of the results of the whole program.

Education is being dressed up in attractive new garb for the enrollees (note the non-military term) of the Civilian Conservation Corps. Grades, credits, and hours do not bother the student and teacher. Neither do cut-and-dried formal curriculums. The courses are planned by the instructors with the students. As a result, America's army of conservation is studying a multitude of subjects from fossil-hunting to cooking, from Chinese history to plumbing, from shoe-making and geography to love-of-home and geometry.

In other words, the greatest Folk School Movement America has ever known is moving across the continent through these camps set up to provide temporary employment for jobless youths. Formal education has given way to "round-table" and "round-the-campfire" discussions. Lectures by an instructor have been superseded by what one official terms "bull sessions" between teacher and students.

Although army officers are in charge of the camps, the United States Office of Education advises with the War Department on the matter of education. Dr. C. S. Marsh is director of education for the CCC. The camps are set up in nine corps areas, with an educational supervisor for each. An educational adviser is assigned to each camp to advise with the officer in charge and direct the educational activities.

The first duty of this educational leader, according to Dr. Marsh, is to get acquainted with his men and find out in what they are most interested. Then the educational program is built around those interests. In each camp one of the enrollees is made an assistant to the educational adviser. Personnel of the Army and Forest Service, National Park Service, in addition to the educational instructor, are on the teaching staff. From cities near the camps, public-spirited teachers, preachers, business men, Y.M.C.A. workers and the like frequently assist in the teaching. It is estimated that all in all some 7,500 persons make up the faculties on both a full-time and part-time basis.

For several reasons, the Folk School method of education has been adopted for the CCC. Boys coming into the camps have varying educational backgrounds, ranging from the illiterate to the college graduate. Their social adjustments cover as wide a range. All are without jobs, trying to fill in the time profitably until positions are available.

Therefore, an educational program has been set up designed to return the enrollees back to the normal work-a-day world, following the emergency, better equipped mentally and morally for their duties of citizenship. This program, therefore, does not impose a set curriculum upon the boys but offers them a chance to sit down and discuss with their leaders the things in which they are most interested. Wherever possible, the camp library is stocked with text material and pamphlets and magazines which will aid in these discussions. No classes, except "first aid," are compulsory. Interest on the part of the enrollee is deemed the appropriate reason for him to attend any classes.

These so-called educational sessions, therefore, center about many subjects. Here are some of the courses being studied in the camps, the type and number for each camp depending upon the interests of the members: Chinese history, Bible, plumbing, painting, shoe-repairing, chorus singing, geography, arithmetic, English, landscaping, dramatics, forestry, electricity, typewriting, writing for publications, radio, oral English, store management, public speaking, algebra, geometry, swimming, reading, spelling, commercial law, business mathematics, current topics, forestry, carpentry, hygiene, history, printing, civics, journalism, road construction, shorthand, surveying, biology, sign-painting, cooking, auto-

repairing, auto-driving, blueprint theory, handicraft, love-of-home, philosophy, telegraphy, transportation, geology, fossil-hunting, agriculture, and so on.

There are many examples of the practical use to which some of the courses are being put. One of the camps has a garden more than sufficient to meet its needs, and worked out by the class in agriculture and soils. Many camps have papers published by the class in journalism.

Sometimes equipment is scarce, and teachers resort to ingenious methods to demonstrate principles. There is the example of the typewriting teacher who made models of keyboards from roofing nails pounded in a board in the same positions as the keys on a typewriter, with a wooden strip across the bottom for a space bar. After practicing on these imaginary typewriters, the men are given a short period of real practice each day on the only typewriter the camp boasts.

Teaching is not confined to the sessions with the educational leaders. Foremen of the work projects are instructed in ways by which they can teach the boys.

The educational program is attempting, according to Dr. Marsh, to help these unemployed youth discover new capacities within themselves. It is trying to awaken them intellectually. In the vocational field the term of guidance is not used, but rather the term counseling. The plan is not necessarily to guide an enrollee into a particular field of activity but rather "to have him stand off and look at himself to see what his main interests are."

There are six dominant aims in the educational program of the CCC camps. They are: (1) to develop in each man his powers of self-expression, self-entertainment, and self-culture; (2) to develop pride and satisfaction in co-operative endeavor; (3) to develop, as far as practicable, an understanding of the prevailing social and economic conditions to the end that each man may co-operate intelligently in improving these conditions; (4) to preserve and strengthen good habits of health and of mental development; (5) by such vocational training as is feasible, but particularly by vocational counseling and adjustment activities, to assist each man better to meet his employment problems when he leaves camp; (6) to develop an appreciation of nature and country life.

A FIELD COURSE FOR ADMINISTRATORS AND SUPERVISORS

The School of Education of the University of Michigan is this year conducting a new type of field course for administrative and supervisory officers. The course is being made available at ten centers asserted to be "within easy driving distance of approximately 90 per cent" of the state. The *University of Michigan School of Education Bulletin* contains the following statement, by Dean J. B. Edmonson, concerning the purpose and the arrangements of the course.

At a time when educational practices are certain to undergo vital changes as a result of social and economic upheavals, it is very alarming to find our professional leadership in a position where it does not have ready familiarity with the best

of the findings of educational research. It is admittedly impossible for anyone to find time to read even a considerable fraction of the studies, yearbooks, and special articles that are appearing on numerous problems that confront our professional leadership. This situation has prompted the staff of the School of Education to consider the question, "What type of service by the staff would be likely to yield the best results in terms of the instructional problems faced by those in administrative and supervisory positions?" This question is similar to one that has been raised by the faculties of certain other professional schools of the University of Michigan. In fact, the problem of helping professional groups to keep informed concerning scientific advances is considered so important by the University that several programs of postgraduate instruction for professional groups are now being sponsored. The best known of these programs is the one in the field of medicine, which has for its major objective the improvement of medical practice through bringing the results of recent research in medical science to the attention of the practicing physicians of the state. This program is carried on through a series of lectures, conferences, and clinics and is sponsored by the Medical School of the University in co-operation with the State Medical Association. It is expected that a large percentage of all physicians will be reached annually through these programs and given an opportunity to become familiar with the significant findings of recent research in the medical science.

A similar program of in-service training for educational leaders is planned by the School of Education this year; the staff will offer a new type of advanced field course designed to provide an opportunity for the critical appraisal of significant findings of educational research and to assist in the application of these findings to the improvement of school practice. This course, which will be known as "Education B 221," represents an effort to find an answer to the question as to the most constructive service that the School of Education can render to the professional leadership of Michigan schools.

The new course will be organized on a level carrying advanced credit and will be administered through the Extension Division of the University, with sections of the course offered in ten selected cities of the state. The course will consist of four units of instruction and a series of field studies. The units planned for the course during 1934-35 are as follows: Unit I, The Improvement of Reading in Elementary and Secondary Schools; Unit II, The Diagnosis of Behavior Problems of Pupils; Unit III, The Technique of Instruction for Slow Normal Pupils; Unit IV, The Appraisal and Redirection of Extra-Curriculum Activities.

The course represents co-operative planning on the part of eight members of the faculty of the School of Education. Numerous meetings and conferences of these faculty members are being held in advance of the opening day of the course, and every effort is being made to develop units that can be presented in an effective manner. The members of the staff who are participating in the planning of the course and who will have the responsibility of presenting units at certain of the centers are Professors Francis D. Curtis, C. O. Davis, Edgar G.

Johnston, L. W. Keeler, Willard C. Olson, Raleigh Schorling, Wm. Clark Trow, and Clifford Woody.

In planning the course an effort is being made to present the most valuable and significant materials in the shortest period of time. In contrast with many college courses, the instructors will try to conserve the time of students by using a specially prepared mimeographed bulletin for each unit containing digests of studies and investigations, as well as specific suggestions relative to the practical problems of the classroom. A term report representing an intensive study of some phase of one of the units of the course and based on data secured from studying some school system will be required in lieu of the final examination. This plan is followed so as to encourage practical studies in a large number of schools in the hope that the findings presented in the course will be carried over into classroom practice.

For the convenience of those interested in Education B 221, there will be sections of the course at geographically well-distributed centers. For 1934-35 the centers at which sections will be given are as follows: Section 1, Jackson; Section 2, Kalamazoo; Section 3, Grand Rapids; Section 4, Saginaw; Section 5, Flint; Section 6, Pontiac; Section 7, Wyandotte; Section 8, Niles; Section 9, Ishpeming; and Section 10, Iron Mountain. These ten cities will bring a section of the course within easy driving distance of approximately 90 per cent of the administrative and supervisory officers of Michigan schools.

The course will open Tuesday, November 6, except at Ishpeming and Iron Mountain, for which a special schedule will be announced. At the first session an outline of the course will be given, and the first unit will be presented. The order in which the four units are to be presented will be indicated in a schedule announced at this first meeting of each section. There will be four meetings of the class before the Christmas holidays, and at these meetings the four units of the course will be presented, and problems for investigations in local school systems will be outlined. The next four meetings of the course occur in March and April, and at these meetings the members of the class will present the results of their investigations and studies. The interval between the first four meetings and the second four meetings of the class has been made relatively long in order to provide the time required for field studies. Each class meeting will consist of two afternoon sessions, 3:45 to 5:45 and 6:45 to 8:30 o'clock, except at Ishpeming and Iron Mountain.

Admission to the course will in general be restricted to those who hold at least a Bachelor's degree and who occupy an administrative or supervisory position in a public or private school system. Teachers who have similar preparation, similar responsibilities, and the required preparation may also be admitted. Eligible persons may elect the course without credit providing they pay the regular fees and express a willingness to engage in such co-operative studies of local school problems as are a part of the requirements of the course. The course will carry two hours of graduate credit, of nonresident value, provided the re-

quirements for graduate work are satisfied. The usual fee of the University for a two-hour extension course, ten dollars, will be charged; and an additional sum of two dollars will be collected to cover the cost of instructional materials.

It is believed this course will enable administrators and supervisors to be of greater help to their teachers who need more help than formerly because their teaching loads are heavier and their instructional problems are more complicated. It is also believed that this course will prepare school officials to meet more adequately the demands of lay groups, especially those groups that are now studying educational problems through child-study groups, parent-teacher associations, and similar organizations.

PICTURED BROCHURES FOR EDUCATIONAL INTERPRETATION

In many school systems the difficulties of the period have been met with unusual efforts to gain the favor of the public by distributing information concerning the work and the needs of the school. Among devices used to this end are illustrated brochures. Two admirable examples of recent distribution are found in publications of the school boards of Baltimore, Maryland, and Camden, New Jersey. The brochure from Baltimore, called *Facts about the Baltimore Public Schools*, contains halftones of school buildings, classes in session, and other groups of school children. Textual matter is devoted to such topics as "The Public Schools and the Financial Crisis," "Increasing Complexity of the School System," "Increased Enrolment in Higher Grades," "Growth in the Teaching Force," and "The Cost of the Baltimore Public Schools." All facts are pictorially and graphically portrayed. The brochure from Camden is called *The Depression and the Schools* and is, in point of fact, a strikingly illuminating annual report of the Board of Education. It opens with a section devoted to "The Year in Review." This section is followed by a pictorial history of education since 1633 and this, in turn, by "Some Depression Facts Regarding the Schools." Most of the remainder of the publication is devoted to telling illustrations of various types of school activity. Both brochures are designed to win the sympathy of the public for the program of public education.

SUPERVISED CORRESPONDENCE COURSES AT THE SECONDARY LEVEL

For several years the Extension Division at the University of Nebraska has led the country in the development and the administra-

tion of correspondence courses at the high-school level. The development was encouraged by modest grants of aid from the Carnegie Corporation of New York and the Carnegie Foundation for the Advancement of Teaching but was first of all grounded in a consciousness of limitations of the many small high schools in the state. The small high school is numerically dominant in Nebraska, as in many other states with sparse distribution of population in much of their areas. The experience from the project in Nebraska was recently capitalized in a bulletin entitled *Preparation of Supervised Correspondence Courses*, by Earl T. Platt and Ada Russell Gibson, of the University Extension Division. The purpose of high-school correspondence courses usually first put forward is the enrichment of the curriculum in small high schools. Work on the Nebraska project has refined and amplified the understanding of the possibilities to such an extent as to justify the authors of the bulletin in stating the purposes as follows:

1. To increase the number of subjects available. (Many of these subjects the local instructors are not prepared to teach.) This great variety of subjects, in turn, makes it possible to care for pupils with: (a) special abilities; (b) vocational and avocational interests; (c) physical, mental, or social handicaps; (d) maladjustments.
2. To care for irregular pupils without changing the plan of subject alternation or the class schedule which has been adopted for the school.
3. To meet the need of adult education, the state and community can care for the following classes of persons: (a) unemployed high-school graduates or other unemployed young people in the community, (b) employed young people or adults who are desirous of extending their education, (c) high-school graduates who find it impossible to attend college (this group can be given college courses).
4. To eliminate small classes.
5. To decrease the teaching load of the administrator or of any teacher who may be overloaded.
6. To supply teachers with individual instructional material for all classes. This material serves in the following ways: (a) as supplementary material for regular classroom instruction, (b) as instructional material for regular teachers who need to be relieved of routine work, (c) as instructional material for regular teachers who are poorly prepared, (d) as a guide to inexperienced teachers in preparing courses, (e) as a vehicle for introducing methods of instruction and types of textual material which assist teachers in vitalizing their teaching.
7. To keep curriculum materials dynamic and up to date.

Beyond these services rendered in organized high schools, provision has been made in Nebraska for secondary students who are unable to attend organized

high schools to carry on supervised correspondence study under the directions of any rural-school teachers. This phase of service has made it possible for students in remote sections of Nebraska, who otherwise would be unable to continue with formal education, to carry high-school work successfully.

The most unique purpose, when the list is compared with other statements of the services of correspondence courses, is, perhaps, the sixth, "To supply teachers with individual instructional material for all classes." This service arises from the fact that, since the correspondence courses must be well planned in order to be effective in localities where pupils are without immediate supervision of specialists, recourse to such plans should prove helpful to regular teachers of the subjects, especially to teachers who are inexperienced or otherwise in need of supervisory stimulation.

Besides an introductory chapter setting forth these purposes and certain definitions, the bulletin contains chapters on "The Correspondence Center" and "Principles To Be Developed in the Preparation of Supervised Correspondence Courses." Fully half the total of sixty or more pages is devoted to appendixes presenting sample units in a diversity of courses.

CONSUMER EDUCATION IN THE SECONDARY SCHOOL

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AN INQUIRY INTO EXTENT AND NATURE OF CONSUMER EDUCATION

It is now a decade since the appearance of Harap's *The Education of the Consumer*.¹ The publication of his book probably had more influence in arousing interest in this neglected area of the curriculum than any other single event. Discussion of the problem has been continued intermittently in books and articles since that time, but no other event has stirred up much concern over the problem until the recent developing consciousness of the position of the consumer during the depression and the subsequent efforts at recovery. The newly accentuated awareness of the predicament of the consumer is directing attention once more to the need of a more generous recognition in public affairs of his interests. The federal government has taken steps to serve these interests better than they have been served in the past, and there has been some consideration of the proposal that a secretary of the consumer be added to the President's cabinet. This revival has brought with it some renewal of discussion of the education of the consumer. It therefore seems timely to give a report from a partial inventory of the consumer education now provided in the schools.

The particular problems to the consideration of which this article is addressed are the nature and the extent of consumer education to be found in the curriculum of schools at the secondary level and the contributions made by the various subjects to this education. More simply put, the problems are: What and how much consumer education does the curriculum contain and what subjects are the vehicles for it? The sources analyzed are the textbooks in the subjects and

¹ Henry Harap, *The Education of the Consumer*. New York: Macmillan Co., 1924.

fields in which content significant for the consumer is most likely to appear. The assumption underlying the use of textbooks as sources is that in most schools the textbook largely determines the content of the course as taught—an assumption made tenable by several investigations of the place of the textbook in instruction. An increasing minority of teachers are enriching the content of courses by drawing on supplementary materials, but the enrichment is usually applied to topics already recognized in the textbook.

Evidence on consumer education found in textbooks is reported here from two studies. One of these involved the analysis of textbooks in the social studies and is reported by Niehoff.¹ The second study was made by the writer especially for this article and involved analyses of textbooks in general business, home economics, mathematics, geography, and science. The subject fields of English and foreign language are among those in which one would expect little recognition of consumer education. Textbooks in the industrial field and fine arts were not included because they are less likely to be adequately representative of the courses as taught than textbooks in the fields chosen and because they are usually concerned more with imparting skills than with transmitting information and stimulating judgments. Although the procedures followed in the two studies are somewhat alike, they are dissimilar enough to urge separate rather than simultaneous report.

CONSUMER EDUCATION IN THE SOCIAL STUDIES

The procedure in Niehoff's study.—The investigation made by Niehoff is concerned only in part with the education of the consumer. It is, in fact, much more nearly comprehensive of matters classifiable under the broad general heading of "social education" than of education of the consumer, however broad the conception of the interests of the consumer may be. In brief, the investigation involved ascertaining the extent of recognition given in secondary-school textbooks in the social studies to trends reported in *Recent Social Trends in the United States*, the report of former President Hoover's Research Committee on Social Trends. Niehoff reports that the first step in

¹ Richard Otto Niehoff, "A Comparison of the Content of *Recent Social Trends in the United States* with the Content of Selected Textbooks in Social Sciences." Unpublished Master's thesis, Department of Education, University of Chicago, 1934.

his procedure was the analysis of the content of *Recent Social Trends in the United States*. The materials of each of the 29 chapters were condensed into statements, 293 in number, which indicated the major trends. The statements were submitted to Professor William F. Ogburn, director of research of the President's Research Committee, for the purpose of eliminating inaccuracies or correcting for omissions of important materials. Changes were made to bring the statements into conformity with Professor Ogburn's judgment on specific topics.

The next step involved the examination of the textbooks to ascertain the extent to which they give recognition to the major trends derived in the manner just described. Two degrees of recognition were distinguished in the tabulation, namely, mention and discussion. "Discussion" was recorded when the treatment of a topic extended over a paragraph or more; "mention" was recorded when a shorter treatment was found.

Sixteen high-school textbooks were analyzed in this way, two each in sociology, political science, economics, and general social science published within each of the two intervals of years 1925-29 and 1931-34. The purpose in considering the books in these two groups was to note any changes in the extent and the nature of recognition in recent years.

The results of the analysis.—The concern here is only with those portions of Niehoff's investigation reporting the recognition of topics pertaining to the consumer. These topics were selected from the chapter in *Recent Social Trends* dealing with "The People as Consumers." They are ten in number and are listed in the left-hand column of Table I, which reports also the number of books in which mention or discussion of each topic is found. Perhaps the most striking impression yielded by examination of the table is the relatively small number of the textbooks recognizing the topics either by mention or by discussion. In general, these textbooks in the social studies show a meager recognition of the interests of the consumer when these interests are measured by the mention or treatment of these ten important topics. For the eight textbooks published before 1930 the total frequency of mention or discussion of the ten topics is only eleven, or about a seventh of the total possible frequency of eighty.

TABLE I*
TOPICS ON TRENDS IN "THE PEOPLE AS CONSUMERS" MENTIONED AND DISCUSSED IN TWO HIGH-SCHOOL TEXTBOOKS
IN EACH OF FOUR SOCIAL-SCIENCE SUBJECTS PUBLISHED BEFORE 1930 AND IN TWO TEXTBOOKS
IN EACH SUBJECT PUBLISHED AFTER 1930

Topic	NUMBER OF TEXTBOOKS PUBLISHED BEFORE 1930 RECOGNIZING TOPIC								NUMBER OF TEXTBOOKS PUBLISHED AFTER 1930 RECOGNIZING TOPIC							
	Sociology		Political Science		Economics		General Social Science		Sociology		Political Science		Economics		General Social Science	
	Men- tion	Dis- cus- sion	Men- tion	Dis- cus- sion	Men- tion	Dis- cus- sion	Men- tion	Dis- cus- sion	Men- tion	Dis- cus- sion	Men- tion	Dis- cus- sion	Men- tion	Dis- cus- sion	Men- tion	Dis- cus- sion
1. Increase in money income and purchasing power.....			I										I		I	
2. Expansion of consumer credit.....															I	
3. Increased availability of consumers' goods.....													I		I	
4. Wide range of choice offered to the consumer.....			I		I				I				I		I	
5. Increased pressure on the consumer to buy.....																
6. Influence of size of family and home conditions on the consumption of goods.....		I								I						I
7. Increased social importance given to material goods.....									I						I	
8. Changing proportion of consumer expenditures in relation to income.....			I		I								I		I	
9. Aids to improvement of consumer literacy.....							I									I
10. Need for more organized and directed consumer aid.....		I													I	
Total.....		3	3		2	I	2		3	I			6	3	6	4

* From Richard O. Nichoff, *op. cit.*, pp. 116-17.

For the eight books published after 1930 the total frequency is twenty-three, or approximately two-sevenths of the total possible frequency. The first inference from this comparison of the two intervals would be that there has been a marked improvement in the extent of recognition of the topics were it not for the fact that the increment is largely accounted for by the content of one or two books and is not distributed to all books equally. The evidence prompts the conclusion that there is little recognition in the social studies of these important items in consumer education and that there has been no notable tendency in recent years to increase that recognition. The situation is the more deplorable because these social studies may be regarded as an appropriate avenue of consumer education, especially those aspects of it represented by the topics considered.

CONSUMER EDUCATION IN OTHER COURSES

The procedure in the second study.—Like the first study, the second drawn upon for this paper involved two steps, namely, preparation of a list of topics or items and an analysis of textbooks to ascertain to what extent the topics or items are recognized.

In this instance the list of items is much more generously representative of the field of consumer education than is that used in Niehoff's study. The point of departure in assembling the list was Harap's monograph, *The Education of the Consumer*. In that book are listed something more than nine hundred "objectives" in consumer education classified under headings referring to food, housing and housing materials, and clothing. In the present study these objectives were transmuted into what are called "items," which may be thought of as items, topics, or problems of the curriculum as it concerns the consumer. To avoid unwieldiness in the analysis the more than 900 objectives were reduced to 217 items. The process of reduction was mainly that of generalization but involved also the omission of a number of skills, particularly household skills. The list remaining was again augmented by almost a hundred items drawn from various other sources. Among these sources were *Recent Social Trends in the United States* (most of Niehoff's list of topics quoted in Table I, being used); Harap's book, *Economic Life and the Curricu-*

lum;¹ the chapter on "The Position of the Consumer" in Slichter's *Modern Economic Society*;² Nystrom's *Economic Principles of Consumption*³ and *Economics of Fashion*;⁴ the publications of Consumers' Research, Incorporated; and recent popular books on the deception of the consumer.

The 306 items in the list thus revised were grouped into the twelve divisions of Table II. It may be seen that these divisions extend far beyond food, housing, and clothing, and include the utilization of services involved in "Savings, investments, and banking service" (which are in part abstention from consumption); "Insurance"; "Travel, transportation, and communication"; "Maintenance of health" (including such topics as physicians' fees, socialized medicine and dentistry, and self-medication through proprietary medicines); and "Leisure and consumption." A division significantly germane to, although it may not be within the scope of, consumption, strictly defined, includes items classified as "General personal business relationships." Two of the most important types of items added are included in the first and the last divisions, namely, "National and family income and expenditures" and "Protection of the consumer and improvement of consumer literacy." In the first division are included items like the status and trends in national income, conservation of natural resources, standards of living, expansion of consumer credit, and effect of schooling on the standard of living. In the last division are placed items like the proposed federal Department of the Consumer; governmental operation and control of public utilities; federal food and drug regulation; and activities of the American Home Economics Association, Consumers' Research, Incorporated, and consumers' co-operative organizations.

It is regrettable that the limits of this article do not permit presentation of the full list of items. In the absence of the detailed list it must be admitted that the more than three hundred items in the

¹ Henry Harap, *Economic Life and the Curriculum*. New York: Macmillan Co., 1927.

² Sumner Huber Slichter, *Modern Economic Society*. New York: Henry Holt & Co., Inc., 1931.

³ Paul H. Nystrom, *Economic Principles of Consumption*. New York: Ronald Press Co., 1929.

⁴ Paul H. Nystrom, *Economics of Fashion*. New York: Ronald Press Co., 1928.

TABLE II
NUMBER OF ITEMS IN EACH OF TWELVE DIVISIONS OF CONSUMER EDUCATION AND PERCENTAGE OF ITEMS
IN EACH DIVISION RECOGNIZED IN EACH OF TWELVE TEXTBOOKS ANALYZED

DIVISION	NUM- BER OF ITEMS	PERCENTAGE OF ITEMS RECOGNIZED										
		General Busi- ness 1	General Busi- ness 2	General Busi- ness 3	General Home Eco- nomics	Mathe- matics (Junior High School)	Geog- raphy (Junior High School)	General Science 1	General Science 2	Biol- ogy	Chem- istry	Physics
1. National and family income and ex- penditures.....	15	.....	6.7	13.3	.....	13.3	20.0	13.3	13.3	6.7	.....	.....
2. Food.....	102	1.0	.....	1.0	48.0	4.9	4.9	13.7	13.7	19.6	11.8	2.0
3. Housing and housing materials.....	80	.....	.....	2.5	17.5	2.5	5.0	1.3	27.5	13.8	2.5	8.8
4. Automobiles.....	9	.....	.....	11.1	.....	33.3	.....	22.2	11.1	.....	.....	11.1
5. Clothing and fabrics.....	35	.....	.....	5.7	57.1	2.9	8.6	25.7	5.7	8.6	22.9	.....
6. Savings, investments, and banking service.....	18	38.9	27.8	55.6	.....	72.2	.....	.....	.....	.....	.....	.....
7. Insurance.....	7	57.1	57.1	14.3	.....	71.4	.....	.....	.....	.....	.....	.....
8. General personal business relation- ships.....	4	25.0	100.0	.....	.....	75.0	.....	.....	.....	.....	.....	.....
9. Travel, transportation, and commu- nication.....	7	100.0	100.0	.....	.....	42.9	.....	.....	.....	.....	.....	.....
10. Maintenance of health.....	6	.....	.....	.....	16.7	.....	.....	33.3	16.7	.....	.....	.....
11. Leisure and consumption.....	6	.....	.....	16.7	33.3	16.7	.....	.....	.....	.....	.....	.....
12. Protection of the consumer and im- provement of consumer literacy.....	17	17.6	.....	35.3	5.9	5.9	5.9	5.9	5.9	.....	.....	5.9
All divisions.....	306	7.5	6.9	8.5	28.4	12.7	5.2	17.0	9.8	8.5	10.8	3.6
Total number of items recognized.....	23	21	26	87	39	16	4	52	30	26	33	11
Number of different divisions recognized.....	6	5	9	6	11	5	3	7	6	4	3	4

twelve divisions are not comprehensive of all interests of the consumer. The best that can be claimed for them is, as has been said, that they are generously representative. It would not be difficult to suggest additional divisions and topics. Nor are the lists of items assumed to be proportionately representative of any complete range of items under each division. The aim in assembling them was to make certain of some representation of a diversity of problems that should concern the consumer and should touch most consumer aspects of man's non-occupational life.

In the second step in this study, analyzing the textbooks, the books were read, and note was made of the items recognized. Three types of recognition were recorded, namely, mention, discussion, and exercises. Brief recognition in a few sentences or less was classified as "mention," and a treatment of at least two inches in length was classified as "discussion." The term "exercise" was used to designate exercises or problems such as are found in textbooks in mathematics or at the ends of chapters of textbooks in other fields. The percentages of recognition in Table II ignore these distinctions in types of recognition, but it may be stated that most of the entries in the tabular forms used in the preparation of this table were designated as "discussion." The measures of extent of recognition chiefly relied on in Table II are the number of the items in each division and the percentage of all 306 items found in each textbook analyzed. Another measure, reported in the lowest row of figures, is the number of different divisions recognized to some extent in each textbook.

Before comment is made on the figures on extent of recognition, it may be desirable to say a word concerning the textbooks represented in the analysis. The subject fields in which they fall have already been mentioned. These are more specifically indicated at the heads of the columns in Table II. All the books are of recent publication with the following dates of copyright: 1929, two books; 1930, four books; 1931, one book; 1932, one book; 1933, three books; and 1934, one book. In three instances the books are recent revisions of books originally published before these dates. The chief bases of selection of the books represented in the analysis were that they be of recent publication and that they have some following in the schools. All columns except that for mathematics refer to single books; this

exception is a three-book series for use in the junior high school, which has been dealt with in this analysis as if it were a single volume. For one subject, general business, three different textbooks were analyzed, and for two others, geography and general science, two different textbooks are represented. Including two or three textbooks in these fields makes it possible to note any tendency to variation from one book to another in the same subject in the nature and extent of recognition of consumers' problems.

The results of the analysis.—Perhaps as effective an approach as any in interpreting the results of this study is to comment on them book by book, or by groups of books in the same subject, in the order in which they appear in Table II.

1. The first two books in general business, a newcomer in the family of school subjects, are for use in junior high school grades, and the third book is for use in senior high school grades. The contributions of the first two books are chiefly in relation to Divisions 6-9, inclusive: "Savings, investments, and banking service"; "Insurance"; "General personal business relationships"; and "Travel, transportation, and communication." The third book recognizes the first two of these divisions but neglects completely Divisions 8 and 9. At the same time, this book gives some slight recognition to the first five divisions in the whole list, divisions largely ignored by the textbooks for junior high schools. Division 12, an important one, is given slight recognition in the first book, none in the second, and partial recognition in the third. That these books do not recognize the first and the last divisions (as well as others) more generously is probably explained by the fact that courses in business and economics have traditionally been focused on a content of production and distribution.

2. As might be anticipated, the textbook in general home economics recognizes chiefly items in the three large divisions of food, housing, and clothing. It gives minor recognition (numerically) to maintenance of health and to leisure and includes one item dealing with protection of the consumer. It is difficult to understand why in this subject, as in general business, the first and the last divisions should not be more generously recognized, especially if the opinion of Nyström is correct that "the study of home-making has evolved largely

into a study of spending, in other words, the economics of consumption."¹ Probably many specialists in home economics would dissent from this statement as a comprehensive definition of their field, but few or none would be likely to deny that the economics of consumption should be an important constituent.

Many recent textbooks in home economics have moved away from the attempt to cover the field comprehensively. They treat, instead, special aspects, such as foods and cookery, clothing and textiles, or home-making in the stricter sense. We should expect these specialized books, when analyzed, to be more restricted in their recognition of the various divisions of the table. A general book was selected in order that something of the possibilities of this whole field in supplying consumer education might be discovered.

3. The three-book series in junior high school mathematics was found to give some degree of recognition to almost all divisions. To be sure, some of the recognition recorded is by means of exercises rather than discussion, and one may be doubtful of its significance in consumer education. Besides, the point of view of the tradesman in business calculations, imparted to arithmetic by its origins, appears at times to predominate. The topic of profit and loss is an example, as is also the problem that begins, "Pretend that you are the owner of a business of your own, as drygoods, groceries, or coal and lumber." On the other hand, the first two books of this series, intended for Grades VII and VIII, contain a considerable amount of discussion and information significant for the consumer. The third book of the series, however, is devoted largely to algebra and is practically devoid of direct meaning for the consumer.

4. The divisions recognized are rather similar in the case of the two textbooks in geography, one of which is intended for use in junior high school grades and the other for the grades of the conventional high school. This recognition has to do mainly with national income, food, housing, and clothing. These books contain much more material on the subjects of food, housing and housing materials, and clothing and fabrics than the percentages would indicate, but the content is almost exclusively concerned with production and has only indirect significance for consumption. These books also

¹ Paul H. Nystrom, *Economic Principles of Consumption*, p. 70. New York: Ronald Press Co., 1929.

contain much that relates to transportation, represented in Division 9, but it is transportation for distribution and not for consumer utilization. Therefore, the subject of geography, as represented in these books, has little direct bearing on consumption even though, as Harap has pointed out, "Of all the formal school subjects geography is most heavily laden with economic materials."¹ The areas of consumer education to which, it seems, the subject is best suited to contribute are national income (including standards of living), food, housing materials, clothing and fabrics, and the utilization of facilities for travel and transportation.

5. The percentages for the two textbooks in general science again give evidence of the variation in extent of recognition that may be found in the same subject. The percentages for the first book are typically, although not always, larger than those for the second. The divisions recognized are mainly "Food," "Housing and housing materials," "Automobiles," "Clothing and fabrics," and "Maintenance of health." One might hope for greater emphasis on consumers' interests in these divisions, as well as in the last division, "Protection of the consumer and improvement of consumer literacy."

6. As might be expected, the textbooks in the three special courses in science—biology, chemistry, and physics—as a group, for the most part recognize items in the same divisions as do textbooks in general science. An exception is the failure to recognize items under "Maintenance of health," which one would expect to find recognized in courses in biology. Some tendency to differentiation is noted among the three courses, biology stressing food and clothing and fabrics; chemistry stressing food, housing, and clothing and fabrics; and physics stressing mechanical contrivances in housing equipment and the automobile. In addition to greater emphasis in these divisions, one might hope for more attention in all these courses to the protection of the consumer and the improvement of consumer literacy.

A few comments prompted by a comparison of the nature and the extent of recognition in the different subjects represented in Table II seem appropriate. While these comments are being ventured, it will be desirable to keep the field of the social studies in view even though Niehoff's analysis of textbooks in that field was made in rela-

¹ Henry Harap, *Economic Life and the Curriculum*, p. 97. New York: Macmillan Co., 1927.

tion to a much shorter list of items belonging exclusively in the first and the last divisions of this table. The lowest row of figures in Table II shows that the number of different divisions recognized to any extent in the individual textbooks ranges from three, for one textbook in geography and the textbook in chemistry, to eleven, for the series in junior high school mathematics. The percentages of the total of 306 items recognized in the individual books range from 1.3, for one textbook in geography, to 28.4, for the textbook in general home economics. (It would be easy to overestimate the significance of the differences in these percentages because the numbers of items in the various divisions are almost certainly not in proportion to the importance of the divisions.) If one may judge from this rather slender evidence, it may be said that the subjects in this list affording the best opportunities for the recognition of the interests of the consumer are home economics, mathematics, and general science. To these, if a more comprehensive analysis were made, one would almost certainly be warranted in adding the group of social studies, more especially economics and sociology.

The comparisons of the evidence for the textbooks in Table II seem to justify the statement that the friends of no subject represented there can claim for it the practicability of including content pertaining to all the dozen divisions listed. Also, it would be just as untenable for the friends of any subject to claim that there is any single division in which that subject operates a monopoly.

A further comment from the comparisons of the table is that the last division, "Protection of the consumer and improvement of consumer literacy," fares the worst in extent of recognition. For only two textbooks does recognition rise above the presence of a single item. The importance of this division makes this lack a serious deficiency.

FURTHER IMPLICATIONS AND ISSUES

The consideration of the problem as approached in this article may be concluded by venturing a few further implications and mentioning a few further related issues—with full awareness that no final and sweeping conclusions can be derived from studies as limited as are the two on which report has been made.

1. The procedure followed to ascertain the amount of attention given consumers' problems appears to have some merit. Applied on a

larger and a more comprehensive scale, it should point the way to a better recognition of the consumer in the curriculum. Even in the present limited scope of the approach, the procedure can help in locating serious omissions from this aspect of the curriculum, in selecting textbooks, and in suggesting content for desirable supplementation of textbooks and courses in current use.

2. It is apparent that, excepting in a few subjects, the extent of recognition of consumers' interests is meager. This important aspect of education is in need of vigorous expansion.

3. The items and the various divisions represented recommend themselves as essential elements of education. They are so essential that they must be regarded as a part of general and universal education, and they should therefore be introduced into courses which are required of all pupils. It is significant in this connection that already mathematics and geography at the junior high school level are almost always among the required subjects, that general science is usually among the required subjects whether offered in the junior high school or the four-year high school, and that biology and general business have been moving into the group of constant subjects. At the junior high school level home economics is required of girls only, and little tendency is seen to require it of boys. It appears that portions of consumer education suitable for both sexes now being taught in courses in home economics must be administered to boys through other courses.

4. An issue suggested by the last implication is whether consumer education should be administered through courses now being offered or through a special course required of all and devoted exclusively to that purpose. In this connection Harap has stated that "there are certain signs that in the reorganization of subjects of study the new alignment will parallel the major activities of life" and that it is "not inconceivable that economic studies will emerge as one of the new *common branches*."¹ The movement to realign subjects of study around major activities of life has not made long strides since Harap made this statement. Moreover, it may be contended that each of these major activities involves consumption and that, even if such a new alignment becomes prevalent, consumer education may best

¹ Henry Harap, *Economic Life and the Curriculum*, p. 30. New York: Macmillan Co., 1927.

be given in connection with each new subject. Thus, whether the grouping of content follows current and emerging classifications or major activities and aspects of life, we are likely to distribute most of the content of consumer education to the courses given rather than to isolate it for separate administration.

5. We come finally to the explanation of why the education of the consumer has suffered so much neglect and to the perplexing question of how we are to elevate that aspect of education to a proper recognition in the curriculum. The explanation must be found in the nature of our society, which has been largely dominated by ideals of production and distribution and motives of profit-making. Anyone who examines textbooks like most of those analyzed in the second study, particularly books in general business and geography, against a list of divisions and items pertaining to consumer education is soon convinced of the prevailing influence of these ideals and motives. He finds, on the other hand, small enlightenment for the consumer. It is almost as if information pertaining to consumption were consciously being kept from the pupil and thereby from society at large. Scarcely an agency for the protection of the consumer is mentioned, and one might almost assume an all-pervasive conspiracy against the consumer. It is, of course, merely a reflection of the world outside the school, a world of which T. S. Matthews, literary editor of *Time*, writing in the *New Republic* and referring to the exaggerating blurbs on the jackets of recent books, says, "We are approaching a situation—if indeed we have not already reached it—in which everyone pretends to fool everybody else."¹ While the ideals and motives referred to are dominant, it will be difficult to enrich the curriculum adequately in the directions advocated. Imagine the hue and cry that would follow a vigorous effort to give effective instruction in certain of the divisions and items referred to in this article in the schools of the average small city, dominated as it is by a tradesman's or mercantile class. Notwithstanding the obstacles, we shall need to press toward a curriculum adequate in this regard. A society or system leans on a very slender reed, indeed, if it must depend on ignorance of the consumer, especially in a country which is spreading other types of intelligence by rapidly extending the period of general and universal education to twelve or fourteen years.

¹ T. S. Matthews, "Rackety Jackets," *New Republic*, LXXIX (May 23, 1934), 51.

EFFECTIVENESS OF INSTRUCTION IN A CLASS GROUP OF ONE HUNDRED PUPILS

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Large classes are growing larger.—A canvass of the literature thus far made available concerning the relative effectiveness of instruction given in "large" and in "small" groups reveals the fact that, with but a few exceptions, a class section enrolling as many as thirty-five or forty pupils has been regarded as a "large" class. The findings of a recently completed canvass of the secondary schools of the United States¹ suggest, however, that this conception, more or less generally held, of what constitutes a "large" class in American secondary schools must undergo rather drastic revision. In that study it was discovered that a number of schools are now running classes in various fields which enrol as many as seventy-five to one hundred or more pupils. Every fifth school included in the investigation (21.5 per cent) reported one or more class sections enrolling fifty or more pupils.

Need for new type of experimental evidence.—Although the numerous investigations of class size thus far reported reveal, in general, no appreciable superiority for either the "small" or the "large" class, one is obviously not safe in assuming that this generalization will retain its validity when the number of pupils in the large class is doubled or trebled. Clearly, so far as the public secondary school is concerned, we are today in need of experimental evidence concerning the relative effectiveness of instruction given in groups of seventy-five to one hundred and in groups enrolling less than thirty pu-

¹ Verna A. Carley and Harold C. Hand, "Class Size in American Secondary Schools," *Proceedings of the Eighteenth Annual Meeting of the Department of Secondary-School Principals*, pp. 134-38. Bulletin of the Department of Secondary-School Principals, No. 50. Chicago: Department of Secondary-School Principals of the National Education Association (5835 Kimbark Avenue), 1934.

pils. It was in an attempt to secure data of this type that the investigation reported in this article was set up and conducted.

The present investigation.—During the first semester of the school year 1933-34, instruction in general business training was given in the Bemidji (Minnesota) High School to three ninth-grade classes numbering, respectively, 105, 25, and 22 pupils. All three groups were taught by the same instructor, a man with ten years of teaching experience, who had twice offered the course in general business training but who had had no previous experience with any class group numbering as many as fifty pupils. The Crabbe-Slinker Achievement Test in General Business Training¹ (a test comprising 440 items) was administered to the pupils in all three groups at the beginning and again at the end of the semester, and the differences in mean gains were computed for the large and for the small classes. (The two small classes were considered as one group in treating the data of this study and will be referred to as the "small class" throughout the remainder of this article.)

For a variety of reasons, which need not be detailed in this article, it was not possible to secure complete achievement data for all the pupils in either the large or the small group. Data were available for thirty-five pupils in the small class, twenty-one boys and fourteen girls. In the large class complete data were available for eighty-seven pupils, thirty-seven boys and fifty girls.

The pupils were assigned to the small group, that is, to one or the other of the two small classes, by a random selection of every third name from the alphabetical list of 152 ninth-grade names. These forty-seven pupils were then divided into two small classes on a similar random basis as closely as it was administratively possible to do so. That this procedure of selection resulted in a small and in a large group of pupils closely comparable as to intelligence and initial performance on the Crabbe-Slinker Achievement Test is clearly demonstrated by the data reported in Table I. That only chance differences existed between the two groups with respect to intelligence and initial performance on the achievement test is evident from the ratios of 0.5 and 0.3. Further, the standard errors of the two distributions of intelligence quotients are very comparable (small class, 11.0; large class, 9.5).

¹ Published by the South-Western Publishing Company, Cincinnati, Ohio.

At this point, however, attention should probably be called to the fact that the small and the large groups were not comparable as to composition by sex; the proportion of girls in the large class was considerably larger than that in the small class. Because of this fact, the findings concerning gains in achievement will be reported separately for the two sexes.

TABLE I
COMPARISON OF PUPILS IN SMALL AND IN LARGE
CLASSES IN GENERAL BUSINESS TRAINING

	Mean Intelligence Quotient	Mean Initial Score on Achievement Test
Small class	103.8	174.7
Large class	102.5	177.5
Difference	+ 1.3	- 2.8
Standard deviation of difference	2.5	11.1
Ratio of difference to standard deviation ..	.5	.3

Comparative achievement of the two groups.—As has already been stated, the Crabbe-Slinker Achievement Test in General Business Training was administered to the pupils in the small and in the large groups at the beginning and again at the end of the semester of study. The mean gains in scores made by the pupils of the two groups are reported in Table II. Probably the most striking fact evidenced by the data of Table II is that no difference found is sufficiently large to be considered statistically significant. In other words, only chance differences are to be observed between the mean gains in scores made by boys, by girls, by pupils of high intelligence, and by those of lesser ability in the small and in the large classes. Of the five comparisons given in Table II, however, all but one (that for pupils of above-average mentality) reflect differences in favor of the small-class groups.

It will be noted that the pupils of lesser ability in the small class made a mean gain of 189.5 points over their initial scores, while those of similar classification in the large group achieved a mean gain of 161.5, or 28.0 fewer points. This finding, when associated with that concerning the insignificant difference between the mean gains made by the two superior groups, will raise the question whether the

data of Table II do not justify the conclusion that the difference in size of class was more significant in the case of pupils of low ability than in the case of pupils of high ability. It can readily be demonstrated, however, that such a conclusion cannot be supported. The difference between the differences in mean gains for the pupils of high and low mental ability is found, by appropriate computation, to be 28.1 in favor of the last-named group. It can be shown that the standard error of this difference between differences is 26.2. The first-named value (28.1) divided by the second-named (26.2)

TABLE II
MEAN GAINS IN SCORES ON CRABBE-SLINKER ACHIEVEMENT TEST IN GENERAL BUSINESS TRAINING MADE BY PUPILS IN SMALL AND IN LARGE CLASSES

Group	Mean Gain of Small Class	Mean Gain of Large Class	Difference in Favor of Small Class	Standard Deviation of Difference	Ratio of Difference to Standard Deviation
Boys.....	197.5	185.1	12.4	16.6	0.8
Girls.....	175.5	173.9	1.6	15.5	.1
Pupils with intelligence quotients above 100....	189.5	189.6	— .1	20.1	.1
Pupils with intelligence quotients below 100....	189.5	161.5	28.0	16.8	1.7
All pupils.....	189.5	178.7	10.8	11.4	0.9

yields a ratio of 1.1. One is thus forced to conclude that the observed differences in performance are to be attributed to the operation of chance factors. Similarly, it can be demonstrated that only a chance difference existed between the performances of the boys and the girls.

Clearly, the data yielded by this investigation lead to the conclusion that the learning situation, in so far as it was reflected in the test scores reported, was not appreciably less favorable in the large than in the small class. In other words, the instruction in general business training given in the small class groups enrolling 22 and 25 pupils, respectively, was, within the limitations of the test employed, apparently but little more effective than that given by the same instructor in his first experience with a large-class situation in a group numbering 105 pupils.

STUDY HABITS OF HIGH-SCHOOL PUPILS

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THE PROJECT

As one phase of a study which is concerned with the problem of improving the articulation between high school and college, a how-to-study course was given in several Buffalo high schools during 1932-33. This course was introduced to determine whether it is possible to improve the study habits of pupils and thus facilitate their progress in high school and college.¹ Evaluating the outcomes of such a course proved difficult.² One possible approach lay through the use of a questionnaire which would cover the field of study habits. On the basis of the differentiating items found in the investigations of Eurich,³ Strang,⁴ and Herriott⁵ and after a scrutiny of the content of the course, such a questionnaire was constructed. The present report is devoted to an analysis of this measuring instrument.

The questionnaire finally used consisted of fifty items arranged

¹ The present study is part of a larger investigation made possible by a grant of the General Education Board and conducted through the co-operation of the University of Buffalo and the Buffalo public high schools. Although the general investigation has been formulated in terms of the superior student in high school and college, the how-to-study groups in every case constituted a random sampling of junior and senior high school pupils.

² For a complete description of the course and other methods of evaluating its outcomes, see E. S. Jones and Others, "Evaluating Aids to Study," *Studies in the Articulation of High School and College*, Series 2. University of Buffalo Studies, Vol. IX. (To be published January, 1935.)

³ Alvin C. Eurich, "An Analysis of Self-Ratings on Studiousness Traits," *Journal of Applied Psychology*, XIV (December, 1930), 577-91.

⁴ Ruth Strang, "Another Attempt To Teach How To Study," *School and Society*, XXVIII (October 13, 1928), 461-66.

⁵ M. E. Herriott, *Attitudes as Factors of Scholastic Success*, pp. 29-30, 61-64. Bureau of Educational Research Bulletin No. 47. University of Illinois Bulletin, Vol. XXVII, No. 2. Urbana, Illinois: University of Illinois, 1929.

in random order, with a few so worded that the favorable position occurred at the lower end of the scale. In reacting to these items, the pupil used a five-point scale (1, always; 2, usually; 3, occasionally; 4, seldom; and 5, never). The pupil was given as much time as he desired to complete the questionnaire. Inasmuch as the scale was devised to determine actual study habits rather than the pupil's knowledge of desirable study techniques, strongly emphasized oral directions to be perfectly frank in response were supplemented by the following printed statement.

In the list below you will find fifty items on study habits. This is not a test: it is simply an attempt to find out how high-school pupils actually study. Encircle the position according to the scale below that describes what you actually do when you study, not what you think you ought to do. Since this information is not being used for any other purpose than to determine how high-school pupils study, please be perfectly honest in your replies.

A survey of the blanks showed that the pupils had been discriminating in their responses, shifting from one position to another on succeeding items and showing no appreciable halo effect. While the responses of all the groups studied tended to be rather favorable,¹ this result may be partly due to the fact that the "5, never" position could not be checked on certain items, such as, "Do you use the same place for study?"

Two hundred and eighteen pupils who were enrolled in three of the high schools in which the how-to-study course was conducted in 1932-33 and who were still in school the following October filled out the questionnaire. Of this group, 51 pupils had taken the study course; the remaining 167 pupils included all the members of six fourth-year English classes, two from each school, which had been previously selected to act as control groups for certain units of the course. The trained and the untrained groups had done almost the same quality of academic work, as measured by average marks computed for the second semester of 1932-33. The mean of the how-to-study group was 80.34 and that of the control group 81.25, with standard deviations of 6.76 and 6.02, respectively. In each school all pupils filled out the questionnaire at the same time and in the

¹ "Favorable" in the sense of exercising frequently those habits which psychologists agree are the most effective study procedures.

same room. Thus, the conditions of administration were held constant.

In the analyses the responses of the study group and the control group were compared. The pupils were also divided according to the quality of their academic work during the preceding semester, and returns were studied from this point of view. The upper and the lower quarters of the distribution for each of the three schools were selected; thus, differences among the schools were ruled out, and a representative sampling of superior and inferior high-school pupils was secured.

For the purpose of determining whether the questionnaire was a reliable measuring instrument, scores were computed for the odd- and the even-numbered items.¹ Twenty-five cases were selected at random from each of the three schools co-operating in this survey, study and control pupils of varying achievement being represented in each sample. The reliability coefficient obtained by this split-half method was $.87 \pm .02$, which was increased to $.93 \pm .01$ by the application of the Spearman-Brown formula. This reliability coefficient compares favorably with that of standardized achievement tests and is especially significant when consideration is given the subjective estimates involved.² The questionnaire, therefore, is consistently measuring some trait, whether it be actual study techniques or the tendency to overstate or to understate one's habits of study.

THE RESULTS

These questionnaire returns reveal a number of suggestive trends. When means were computed for the four groups—study and control groups, and academically superior and inferior pupils—it was found, as might be expected, that some habits are rather uniformly practiced by all groups, while others are less frequently employed. Those

¹ In the computation of the scores an item was weighted 1 if the pupil always practiced the desirable technique, 2 if he usually did, and so on to 5 if he never employed the procedure.

² Another indication of reliability is found in the fact that certain items fall in the same position on the scale for all groups. Thus Question 20 ("Do you follow closely the material presented by a classmate or a teacher during a recitation period?") shows the following averages for the four groups: 1.98, 1.90, 1.89, 1.91. Likewise Question 48 ("Do you make some provision during your study period for time to think over what you have read?") yields the following average values: 3.04, 3.38, 3.19, 3.24.

study habits which are most commonly utilized by all pupils represent, to a greater or a less extent, techniques of study rather empiric in nature which form a part of every teacher's instruction. For example, Question 20 ("Do you follow closely the material presented by a classmate or a teacher during a recitation period?"), Question 31 ("Do you make it a point to read a problem carefully to see exactly what you are to do?"), and Question 36 ("Do you study your lessons alone?") represent study habits which are consistently used by all groups. In contrast with these, the less frequently practiced study habits include the finer points of reading and analysis of the printed page, habits which are more likely to be characteristic of the better type of college student than of the high-school pupil. Illustrative of these techniques, the following might be cited: Question 10 ("Do you make a summary after you have finished your assignment?"), Question 26 ("While studying, do you formulate questions such as your instructor might ask about the lesson or questions which involve the most important points of the lesson?") A random checking of these items would never have yielded such clean-cut differences, which correspond to a priori expectations. These results, therefore, indicate a certain degree of validity for the scale.

An interesting situation appears when the results are analyzed on the basis of the presence or the absence of a study course or on the basis of scholastic achievement. In Table I the various statements which tend to differentiate these groups are listed. Only those items are included which give a difference of more than twice the standard error—a ratio indicating that there are 98 chances in 100 that a real difference exists. For each item the difference points in the direction of favorable study habits on the part of the how-to-study group and the academically superior group.

So far as the study and the control groups are concerned, the differences tend to reflect training in both the more technical aspects of study and the psychology of learning which formed a part of the how-to-study course. Thus, the differentiation between the two groups on statements such as the following may be accounted for on the basis of special knowledge that pupils in control groups do not ordinarily possess.

12. Do you distribute practice periods when learning a lengthy selection, such as a poem?

TABLE I

ITEMS FROM QUESTIONNAIRE ON STUDY HABITS SHOWING SIGNIFICANT DIFFERENCES BETWEEN GROUP RECEIVING HOW-TO-STUDY INSTRUCTION AND CONTROL GROUP AND BETWEEN ACADEMICALLY SUPERIOR AND INFERIOR PUPILS

QUESTION	RATIO OF DIFFERENCE TO STANDARD ERROR OF DIFFERENCE*	
	Study and Control Groups	Superior and In- ferior Groups
2. When beginning to study an assignment, do you think over or get clearly in mind what your instructor has asked you to do?		3.40
3. Do you get started studying without a long warm-up period?		3.80
4. Do you set up a goal for yourself for each study period?		2.11
6. Do you get the main points of a selection during a preliminary skimming?		2.26
9. Do you take notes on reading in outline form?	3.08	
12. Do you distribute practice periods when learning a lengthy selection, such as a poem?	2.44	
15. Do you supplement what you encounter in your reading by supplying examples of your own?		2.39
16. Do you budget your time on an examination?	3.66	
17. Do you skip over charts and graphs when you encounter them in reading?	3.20	
18. As you read, do you consciously try to distinguish between facts and the author's own opinions on the topic?	2.51	
21. Do you keep working on a problem until you have solved it?		3.70
22. Do you think about the material while reading and constantly try to relate new ideas and facts to previous experience?	2.85	2.26
29. Do you try to interrupt work at a natural break in the printed page, such as at the end of a chapter?	2.09	
33. When memorizing dates, formulas, or other facts, do you attempt to relate them to items which you already know well?	2.79	
40. Do you make use of the table of contents, paragraph headings, and summaries to secure the main points of the assignment?	2.52	
41. Do you question material as it is being read?	2.75	2.55
43. Do you get lessons thoroughly from day to day in order to avoid cramming for an examination?		3.15
45. Do you study lessons at the first opportunity after they have been assigned?	2.31	2.59
47. Do you attempt to memorize a poem by breaking it up into parts?	3.78	
50. Do you try to discover the meaning of a new word by studying its prefix, suffix, and root?		3.84

*A ratio of 2.00 or greater indicates a high probability of a true difference (about 98 chances in 100), while a ratio of 3.00 or greater indicates practical certainty.

16. Do you budget your time on an examination?
17. Do you skip over charts and graphs when you encounter them in reading?
33. When memorizing dates, formulas, or other facts, do you attempt to relate them to items which you already know well?
47. Do you attempt to memorize a poem by breaking it up into parts?

The great majority of the items which differentiate the academically superior and inferior pupils fit into a definite pattern having as its essential element a conscientious attitude toward work which finds its expression in a willingness to do more than simply meet the day-by-day class requirement. Thus, the superior student ranks higher on the following items.

4. Do you set up a goal for yourself for each study period?
21. Do you keep working on a problem until you have solved it?
43. Do you get lessons thoroughly from day to day in order to avoid cramming for an examination?
45. Do you study lessons at the first opportunity after they have been assigned?

This same willingness to work is also evidenced by such habits of study as the following.

15. Do you supplement what you encounter in your reading by supplying examples of your own?
22. Do you think about the material while reading and constantly try to relate new ideas and facts to previous experience?
41. Do you question material as it is being read?

Obviously, the most characteristic feature of Table I is the fact that the items differentiating superior and inferior pupils, with three exceptions, fail to differentiate the study and the control groups. If correct study habits bear any causal relation to superior academic achievement, some differentiation between the best and the poorest pupils might be expected, and such differences are found in Table I. It might also be assumed that a course in how to study would build up those traits which distinguish the superior student, but the present results invalidate this view. Members of the study group achieved other outcomes, which may be extremely important in college work, but they do not seem to possess in any greater degree than the control pupils those traits which make for superior high-school achievement.

This analysis tends to substantiate other data on the effect of a

how-to-study course in these three high schools. The marks received by the study and the control groups, carefully paired on a number of measures, demonstrate that the study course fails to improve significantly the scholastic standing of the pupils in the study group. The questionnaire returns indicate that the course in how to study likewise fails to inculcate those habits which are characteristic of the superior high-school pupil.

SUMMARY

In conclusion, the following statements may be made: (1) The study-habits questionnaire used shows a high degree of reliability and some evidence of validity. (2) As measured by this instrument, scholastically superior pupils in high school possess different, and presumably better, study habits than pupils of low achievement, notably with respect to those techniques involving a higher type of study morale, such as effort, curiosity, and perseverance. (3) Pupils who have pursued a course on how to study show higher ratings than control pupils on some of the more technical items covered in the course but do not show, to any greater extent than do the control pupils, those habits which mark the superior high-school pupil.

THE GAP BETWEEN PROMISE AND FULFILMENT IN NINTH-GRADE ALGEBRA

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In the fifth annual Iowa Every-Pupil Achievement Testing Program of May 9, 1933, a comprehensive examination in elementary algebra was administered to 9,034 ninth-grade pupils just completing a year's course in that subject in 230 Iowa high schools. The facts disclosed by this examination provide an unusually reliable and objective description of the extent to which high-school pupils are profiting from instruction in high-school mathematics as it is now generally taught. These facts also appear to be significant in relation to certain important issues in secondary education. The purposes of this article are to present a summary of these facts and to discuss certain of their apparent implications.

The algebra examination used in this program consists of sixty-two items organized into three parts, or sections. Part I contains twenty problems requiring, in most cases, only simple applications of fundamental processes. Part II contains thirty items testing the pupil's ability to express simple relations in algebraic form or to interpret relations thus expressed, that is, testing his ability to use and to interpret the "language" of algebra. Part III consists of twelve verbal problems of the kind typically presented in textbooks and in instruction.

A full sixty minutes of working time was allowed the pupils in which to complete the test. Each part was timed separately, twenty minutes being allowed for each. These time limits were not adequate to permit all pupils to consider or to attempt all items in each section. An analysis of the papers has shown, however, that at least 80 per cent of all pupils had time to attempt the first fifteen items in Part I, the first seventeen items in Part II, and the first seven problems in Part III. The pupils who did not attempt the more difficult items in the latter part of each section were in nearly all cases pupils

of inferior ability who probably would not have responded correctly to these items even if unlimited time had been allowed. It is not likely, therefore, that the total scores would have differed significantly if the test had been administered under much longer time limits.

A sampling of thirty-seven of the sixty-two items constituting the test is reproduced in Table I. Only the items at the beginning of each section, those attempted by practically all pupils tested, are presented. The remaining items are somewhat more difficult but similar in character to those given. They are omitted here because of space limitations and because the detailed data secured for them are less significant, some of the items having been attempted by fewer than half the pupils. Before giving consideration to the percentages summarizing pupil performance on this test, the reader is advised to examine carefully the specific items presented in the table. If, in terms of the nature and the intrinsic difficulty of these items and in consideration of the generally accepted objectives of instruction, the reader will attempt to establish in his own mind a subjective standard of satisfactory performance on this test, the data concerning the pupils' performance on the test will undoubtedly prove much more meaningful and significant. How many such problems should a high-school pupil be able to solve at the end of a year of instruction if he may be said to have attained the minimum of satisfactory achievement? At what point, in terms of number of items answered correctly, should the "passing grade" be set? A certain number of pupils, for instance, failed to respond correctly to more than seven items of the total of sixty-two. Can these pupils be said to have derived enough of value from ninth-grade algebra to deserve "credit" for the course? Have the credits granted to such pupils any meaning in relation to college-entrance requirements? Are such pupils ready for a course in plane geometry or other more advanced courses in mathematics? These pupils were *required* to take ninth-grade algebra. Can this requirement be justified? If the answers to these questions are in the negative, how high should the standard be set to permit affirmative answers? At 12 items, 20 per cent of the total? At 15 items, 25 per cent of the total? Or where? These judgments, and others on similar questions which will occur to the reader, should be

TABLE I

SELECTED ITEMS FROM THE 1933 IOWA EVERY-PUPIL TEST IN
NINTH-YEAR ALGEBRA* AND PERCENTAGE OF 1,000
PUPILS ANSWERING EACH ITEM CORRECTLY

Test Item	Percentage of Pupils
Part I. Fundamental Processes:	
2. How much less than $4x^2 - 2x - 1$ is $2x^2 + x - 3$?	62
3. Solve for x : $5x - 4 = 3x + 1$	87
4. Divide: $(12ay^3)$ by $(-4y^2)$	73
5. Find the sum of $2a^2 + 4ab - b^2$ and $a^2 - 2ab + b^2$	77
6. $V = LWH$. Find W if $V = 36$, $L = 6$, and $H = 4$	58
7. If $A = \frac{P}{2} - B$, write the formula for P in terms of A and B	25
8. Solve for y : $.02(y + 1) = .5$	42
9. If $x = 2$ and $y = -3$, find the value of $x^2 - 2xy$	39
10. What must be the value of K in the expression $6x^2 + Kx - 6$ if the two factors of the expression are $(3x + 2)$ and $(2x - 3)$?	27
11. Solve the equation $C = ax - n$ for the ratio $\frac{I}{x}$	5
12. What are the two roots of the equation $2x^2 - 10x = 0$?	19
13. Multiply: $4m^2 - 6m$ by $\frac{1}{2m}$	37
14. Divide: $\frac{a^2 - 3a - 10}{a^2 - 9}$ by $\frac{a + 2}{a - 3}$	65
15. If $\frac{w}{F} = \frac{n}{d}$ write the formula for F in terms of d , n , and w	46
Part II. Algebraic Relations and Representations:	
1. Write a formula for the perimeter of the rectangle in Figure 1†	67
2. Write a formula for the area of the rectangle in Figure 1	70
3. Write a monomial consisting of y with the coefficient 2 and the exponent 3	70
4. The formula $P = S - C$ expresses in algebraic symbols the fact that the <i>profit</i> made in selling an article depends upon its <i>cost</i> and its <i>selling price</i> . Using the letters P , S , and C , write a similar formula showing how the selling price of an article depends upon its cost and the profit that is desired	47

* Constructed by Harold T. Lundholm, instructor in mathematics, Blake School for Boys, Minneapolis, Minnesota.

† Figure 1 is a simple drawing of a rectangle with the long side labeled x and the short side labeled y .

TABLE I—Continued

Test Item	Percentage of Pupils
5. At what hour of the day was the temperature shown in Figure 2 approximately 8 degrees below zero?†.	27
6. How many degrees did the temperature in Figure 2 rise between the hours of 6 A.M. and 4 P.M.?‡.	62
7. What algebraic expression represents the average of the four quantities: x , $x-1$, $x+3$, and $x-6$?	23
8. Write a binomial that can be factored into the product of the sum and the difference of two numbers, K and N	28
9. If a train runs M miles in 5 hours, how many miles will it run in K hours at the same rate of speed?	12
11. How many books can be bought for D dollars if each book costs c cents?	12
12. The numerator and denominator of a certain fraction are in the ratio of 1 to 4. What is the denominator if the numerator is a ?	28
13. What is the equation of line c in Figure 4?§.	14
14. What are the co-ordinates of the point of intersection of the lines d and e in Figure 4?§.	30
15. Which of the lines in Figure 4 is the graph of the equation $y=2x-3$?§.	23
16. Write a trinomial that is obtained by squaring the sum of the two numbers c and d	36
17. Three men agreed to share their earnings equally. They worked together in building a garage and completed it in four days. How much did each man earn per day if they received a total of x dollars for their work together?	10
Part III Verbal Problems:	
1. The sum of two numbers is 32 and the larger is four times the smaller. What is the smaller number?	50
2. One-third the product of two numbers is 24. If one of the numbers is 8, what is the other?	35
3. If 5 is added to a certain number, the result is the same as when twice the number is subtracted from	
44. What is the number?	48

† Figure 2 is a simple temperature graph on co-ordinate paper, with degrees of temperature along the ordinate and hours of the day along the abscissa. The graph is a smooth curved line showing a regular rise from 6 A.M. to 4 P.M., with a gradual drop after 4 P.M. The readability (typography) of the graph is excellent.

§ Figure 4 presents six straight lines plotted on co-ordinate paper, with equal units along ordinate and abscissa, labeled y and x , respectively. Line c , with which Test Item 13 is concerned, passes through the origin at an angle of 45 degrees to the abscissa; hence its equation is $x=y$. Lines d and e intersect exactly two squares above the x axis and five squares to the left of the y axis (Test Item 14). Line a (Test Item 15) is the only one of the six lines intersecting the ordinate below the origin.

TABLE I—Continued

Test Item	Percentage of Pupils
4. When a certain number is divided by 8 and the quotient decreased by 7, the remainder is -2 . What is the number?.....	21
5. The width of a rectangle is 3 feet less than its length, and its perimeter is 42 feet. What is the length of the rectangle?.....	33
6. A dealer sold a suit for \$42, making a profit of 20% of its cost. How many dollars profit did he make?.....	5
7. The area of a triangle is 36 square inches, and the altitude is 9 inches. What is the length of the base?.....	27

made by him *solely* on the basis of the nature of the specific test items involved and in advance of, or apart from, inspection of the percentages showing how the pupils tested actually performed on the test.

It will be noted that a significant characteristic of the whole test is that most of the individual items, particularly those in Parts I and II, are concerned only with skills and abilities which would generally be considered among the bare "minimum essentials," the *sine qua non*, of satisfactory achievement. Without previous experience in the construction of tests intended for widespread use in this field, a person might readily expect that practically all pupils would answer correctly problems such as 2, 3, 4, 6, 7, 9, and 11 in Part I or Problems 1-13, inclusive, in Part II, and hence that most of these problems would contribute little or nothing to the purpose of the whole test, which is to *discriminate* between pupils according to what they have actually achieved. Experience in previous Iowa Every-Pupil Achievement Testing Programs had shown, however, that the achievements of pupils in ninth-grade algebra are at so low a level that differences in achievement can be disclosed only by a test consisting in *large part* of extremely simple items. In all the items arithmetical and computational difficulties were reduced to a minimum. In at least half the items given in the table, the competent pupil should be able to write down the answer immediately without "working it out" with pencil and paper.

Before the data describing pupil performance on this test are discussed, it may be well to note that the 230 schools and the 9,034 pupils involved should not be considered a *random* or representative

sample of all high schools and high-school pupils in Iowa. Rather, the group concerned must be considered a definitely selected or *superior* group in comparison with the entire population. The proportional representation of the larger high schools in the state is markedly greater than the representation of the smaller high schools, and it is a fact that achievement in the smaller high schools (those with two to four teachers) is consistently inferior to that in the larger, city schools. There is also some tendency for schools (of any size) in which achievement is relatively low to participate less frequently in voluntary testing programs of this character than do the more progressive schools. If, therefore, a strictly random sample of all the schools in the state had been taken, it is probable that the average test performance would have been even lower than that here reported. It may be noted, furthermore, that there is no reason to believe that pupil achievement in Iowa high schools is not representative of that in all other high schools throughout the Middle West or in the entire country. Finally, it is significant that the conditions under which the test was administered, the attitude of the pupils toward the test, and the typographical form of the test itself, were all highly favorable to maximum test performance.

The reader was advised earlier to establish for himself an arbitrary "passing grade" on the entire test. The data given in Tables II and III indicate, for each of a number of possible values of such an arbitrary standard, the number or proportion of all pupils who performed below that standard. When the nature of the items constituting this test are given consideration, this picture of end-of-the-year achievement of ninth-grade algebra pupils is indeed discouraging.

Even more startling, perhaps, are the data concerning percentages of correct responses to individual items. From an intensive analysis of the papers of one thousand pupils selected at random from the entire group, the percentages of correct answers shown in Table I were secured. It may be noted that 33 per cent of the pupils were unable to provide a formula for the perimeter of a rectangle whose sides were x and y and 30 per cent were unable to write a formula for the area of the rectangle (Part II, Items 1 and 2). Since the ability to compute areas and perimeters of rectangles in numerical terms is presumably developed before the end of Grade VI, it would appear

that the "language" of algebra is almost totally incomprehensible to many algebra pupils. Only 47 per cent of the pupils solved correctly for S in the expression $P = S - C$ (Part II, Item 4). Only 46 per cent were able to solve for F in the expression $\frac{w}{F} = \frac{n}{d}$, while only 5 per cent were able to solve for $\frac{1}{x}$ in the expression $C = ax - n$ (Part I, Items 15 and 11). Only 27 per cent were able to make a simple reading of a temperature graph (Part II, Item 5). Only 12 per cent were able to

TABLE II
NUMBER OF ITEMS ANSWERED CORRECTLY BY
9,034 PUPILS TAKING NINTH-GRADE
ALGEBRA TEST

Number of Items Answered Correctly	Number of Pupils Answering Correctly
No more than 3.....	394
No more than 7.....	1,540
No more than 11.....	3,109
No more than 15.....	4,736

TABLE III
PERCENTAGES OF 9,034 PUPILS ATTAINING CERTAIN
PERCENTAGE MARKS ON NINTH-
GRADE ALGEBRA TEST

Percentage Mark	Percentage of Pupils
Less than 10.....	12
Less than 20.....	37
Less than 25.....	52
Less than 30.....	72
Less than 50.....	93
Less than 70.....	99

give the distance run in K hours by a train which runs M miles in 5 hours, and only 12 per cent were able to give the number of books which can be bought for D dollars if each book costs c cents (Part II, Items 9 and 11). Only 14 per cent were able to provide the equation of a straight line passing through the origin with all points equidistant from the x and y axes (Part II, Item 13). Only 36 per cent were able to write the square of $(c+d)$ (Part II, Item 16). Only 10 per cent could reason that, if three men earned x dollars for building a

garage in four days, each man earned $\frac{x}{12}$ dollars per day (Part II, Item 17). Only 5 per cent could compute the number of dollars of profit made by a dealer who sold a suit for \$42, making a profit of 20 per cent of its cost (Part III, Item 6).

The percentages given in Table I indicate that only ten of the sixty-two items were answered correctly by more than half the pupils, while only *two* items were answered correctly by more than three-fourths of all the pupils.

CONCLUSIONS

Facts such as these, based as they are on careful testing of a sampling of more than nine thousand pupils (in relatively progressive schools!) leave little room for escape from the following important conclusions:

1. That a significant proportion of high-school pupils are, by reason of mental ability, previous training, and present motivation, incapable of deriving enough of value from ninth-grade algebra as it is now generally taught to justify its being required of all pupils.

In this statement major emphasis must be placed on the words "as it is now generally taught"; present *content* and *organization* of content, as well as the effectiveness of teaching *methods* as such, are all involved. That some kind of training in mathematical or quantitative thinking may be essential for all high-school pupils, however, is not in question.

2. That college-entrance requirements defined in terms of "units of credit" in high-school mathematics are relatively meaningless, since the fact that a pupil has "taken" a course in high-school mathematics cannot be accepted as reliable evidence that he has acquired any significant competence in the field.

The objection to the present types of college-entrance requirements, defined in terms of units of credit or class attendance, is not alone concerned with their futility in relation to their avowed purpose. It is because of these college-entrance requirements that the high schools have been practically forced to require mathematics of all high-school pupils, even though the majority of pupils are certain never to go on to college. The result has been that the high schools

have, in order to avoid an unexplainable proportion of failures, been forced to "pass," and to certify as having earned "credit" in mathematics, many pupils whose true achievement is far below the standard desired for college admission. (All the 9,034 pupils whose test results are reported here had been "passed" in the first semester of the high-school course, while less than 7 per cent of them were failed at the end of the year. Of the 3,109 pupils who scored no higher than 11 on this test, more than three-fourths were given "credit" for a year of algebra.)

Many suggestions could be offered as possible ways out of the intolerable situation here described. One which will doubtless occur to many readers is the complete elimination of college-entrance requirements of the "unit" type. This suggestion has been frequently offered, on the grounds that such requirements fail to achieve their real purpose and encourage undesirable practices in the high schools and that their removal would force the high schools to give more careful and rational attention to the problems of educational guidance and would set the high schools free and encourage them to experiment with a type of offering in mathematics better adapted to the abilities and the needs of high-school pupils.

3. That the content and the methods of teaching high-school mathematics are seriously in need of reorganization and improvement.

It is scarcely necessary to add this conclusion. Such improvements will not of themselves solve the problems with which the preceding conclusions are concerned—certainly not soon enough to mean anything for the present generation of elementary-school pupils.

The facts presented here are not adequate to provide the basis for specific recommendations for the reorganization and the improvement of mathematics-teaching. It may be noted, however, that the examination used to obtain these facts is one in which as much emphasis as possible has been placed on real and genuine *understanding* of skills and processes with which high-school mathematics is concerned and that in nearly all cases the items require some *application*, however simple, of ideas, processes, and principles in problem situations, rather than merely the ability to *recall* verbal statements, formulas, formal rules, or definitions. Under present teaching pro-

cedures pupils frequently memorize verbal statements of basic propositions and of geometric and algebraic relationships, and verbal definitions of technical terms, with only vague appreciation of their real significance and with little or no ability to apply the facts learned in any true problem situations. Pupils tend, furthermore, to become dependent on conventional or set forms of presentation of problems involving mechanical skills and have little or no generalized ability to apply these same skills in a variety of new problem situations. Instances have been found, for example, in which large numbers of pupils who had learned, apparently by rote, how to factor the expression $x^2 - y^2$ were unable to make such a simple transfer of this skill as is required to factor the expression $r^2 - t^2$. In this test an attempt has been made to avoid giving credit for such superficial understanding or ability. While the items are presented in a form, phrasing, or notation that should offer no difficulty to the pupil who has acquired a genuine understanding of the processes involved, a deliberate attempt has been made to avoid any direct copying or exact duplication of the formal or stereotyped problems usually presented in textbooks, which pupils have been "drilled" to perform in a more or less mechanical fashion. Grotesque and unusual forms of presentation, however, or any questions that could be described as "trick" questions have been scrupulously avoided. Because of these characteristics of the test used, the facts obtained are particularly significant in demonstrating how serious has been the neglect of the functional values of instructional content.

The writer submits that the facts here presented are of such significance and well-established representativeness that they cannot be ignored in any rational consideration of the issues involved.

WRITING VOCABULARIES OF NEGRO AND WHITE CHILDREN

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The study reported in this article represents an attempt to determine the differences, if any, in the writing vocabularies of two groups of high-school pupils which were homogeneous in all measurable respects except race. One group was composed of negro pupils at Phillips High School, Chicago, and the other of white pupils at Fenger High School, Chicago. Each member of the white group was paired with a member of the colored group comparable in age, intelligence quotient, and social background.

All the conditions of writing were kept as nearly identical as possible for the two groups. The writer conducted all the classes at both schools on the days when the pupils wrote the compositions from which the vocabularies were obtained. The same motivation and the same preparation for writing each theme were used with fifty negro pupils and the same number of white pupils in twelfth-grade English classes. They were instructed to write on the same topics and were allowed the same length of time in which to write. They wrote four compositions each, and thirty minutes was allowed for writing each composition. Because of the precautions taken to keep the conditions alike, it is believed that analysis of the written material should show any outstanding differences existing between the groups.

No previous studies of writing vocabulary have dealt with the particular problem considered in this article. The writing vocabularies of children's letters and themes have been studied and the vocabulary of adult correspondence has been analyzed, but no important work has been done on vocabulary at the twelfth-grade level with either white or colored pupils.

The social background of the pupils was determined by securing answers to the following questions both at Fenger High School and at Phillips High School: "(1) Were you born in Chicago? (2) If not,

how old were you when you came here? (3) Were either, neither, or both of your parents born here? (4) What is the nationality of your ancestors? (5) What is the occupation of the chief wage-earner in your family?" On the day when the questions were asked, a slip of paper was placed on each desk before the pupils entered the room. The pupils were told to be as frank as possible in answering the questions and were requested not to sign their names. The questions were read to them and explained if necessary. On the back of each sheet was written a number which enabled the investigator to identify the occupant of the seat. It was necessary to make this identification because all members of all classes were not included in the experiment.

Forty-two of the fifty white pupils had been born in Chicago. Since three of the eight pupils not born in Chicago reported that both parents had been born in the United States, it is a fairly safe assumption that these three were also born in the United States. Seven of the eight pupils who had not been born in Chicago had come to the city before they were six years old and the remaining pupil before he was twelve years old. Consequently, the school background of these eight pupils did not differ in any significant degree from that of the other white pupils. Nineteen white children reported that both parents had been born in the United States, twenty-four reported that neither parent had been born here, and seven reported that one parent had been born here and one in Europe. Germany, Italy, Holland, Poland, England, Hungary, France, Lithuania, Scotland, Serbia, Norway, Yugoslavia, Wales, and the Ukraine, in the order named, were the countries from which the largest number of their ancestors came. Thirty-two of the families owned their homes.

Only nine of the colored children had been born in Chicago. Eighteen of the forty-one children who had not been born in Chicago had come to the city before they were six years old and fifteen more before they were twelve. None of the parents had been born in Chicago.

In Table I is presented a comparison of the chief wage-earners of each group.

The Terman Group Test of Mental Ability, Form A, was given to two twelfth-grade English classes containing sixty-two white pupils and to two twelfth-grade English classes containing seventy-six col-

ored pupils, from which the experimental groups were selected. A statistical summary of the intelligence quotients of the members of these classes is shown in Table II. The greatest difference between the two groups is in the lowest quartile. The first quartile of the

TABLE I
DISTRIBUTION OF FIFTY NEGRO PUPILS AND FIFTY WHITE PUPILS
ACCORDING TO THE OCCUPATION OF EACH FAMILY'S
CHIEF WAGE-EARNER

Occupation	Negro Pupils	White Pupils
Unskilled laborer.....	28	8
Skilled laborer.....	5	18
Semi-skilled laborer.....	7	5
Storekeeper.....	2	5
Clerical worker.....	1	3
Civil-service employee.....	4	4
Factory foreman.....	2	3
Professional musician.....	1	0
Professional or semi-professional worker.....	0	3
Retired.....	0	1
Total.....	50	50

TABLE II
INTELLIGENCE QUOTIENTS OF SEVENTY-SIX NEGRO PUPILS AND
OF SIXTY-TWO WHITE PUPILS FROM WHOM EXPERIMENTAL
GROUPS WERE SELECTED

	Negro Pupils	White Pupils
Range of scores.....	63-118	73-122
First quartile.....	86.50	94.13
Median.....	93.37	98.45
Third quartile.....	100.50	102.25

white pupils is 7.63 higher than the first quartile of the colored pupils. This low colored group was composed largely of over-age pupils ambitious for educational advantage, who were continuing in school in spite of academic discouragement.

It was possible to match exactly only sixteen of the fifty experimental pairs of colored and white pupils with respect to chronological age, sex, and intelligence. In the case of the other thirty-four pairs there were slight differences in age and intelligence quotient.

In the case of eight pairs, while the other factors remained more or less constant, sex varied. The groups, however, were extremely homogeneous as wholes, since the mean age of the colored pupils was 17.2 years; that of the white pupils, 16.9 years. The mean intelligence quotient of the colored group was 97.2; that of the white group, 97.5. In the colored group were twenty-four girls and twenty-six boys; in the white group, twenty-six girls and twenty-four boys. In both groups the highest intelligence quotients were registered by boys. Eight of the nine dullest colored pupils were girls, while among the white pupils the lowest scores were made almost equally by boys and girls.

After the groups had been selected, four themes were written at the rate of one a week, but not all on the same day of the week. One-half hour was allowed for the writing of each theme. On the day before each theme was written, the pupils were informed that they were to write the next day, but they were not informed of the topics on which they would write. In both schools the work of every member of the English classes in which the themes were written was collected and retained.

Since it was felt that the rate of writing might influence the number of words written by a pupil, a test to determine the writing rate was administered. However, as the experiment progressed, it became apparent that differences in writing rate did not affect the number of words written because practically none of the pupils in either group wrote for the entire thirty minutes allotted for each theme.

An effort was made to have the topics for the themes cover as wide a range of interests as possible. With this end in view a large choice of topics was presented for each theme. The general characteristics of the topics for each theme were similar in order that a valid comparison might be obtained. The material of the first assignment was in the field of general information. A choice of topics was offered from the following: "Famous Flights," "Famous Flyers," "A Visit to a Century of Progress," "The Cubs in 1933," "An Interesting City I Know." In this assignment the pupils might, if they wished, disregard all the suggested topics and write on a topic of their own choosing. In no other assignment were they allowed to write on a topic of independent choice. The second composition was entitled "Why I Would or Would Not Have Acted as Some Character in Fiction or History Did." In this theme the colored pupils wrote on

twenty-nine different characters and the white pupils on twenty-five. For the third composition there were fifty separate topics, each pupil writing on the same topic as his paired opposite. These themes were based on personal experience or opinion. The fourth composition was an exposition telling how to make or to do something. The distribution of the topics chosen for this theme is shown in Table III.

A separate record was kept of all the different words used by each pupil. Successive themes were tabulated in ink of different colors, so that it was possible to study the words of each separate theme. When the words used by the members of a group had been tallied on indi-

TABLE III
DISTRIBUTION OF FORTY-NINE NEGRO PUPILS AND FORTY-NINE WHITE PUPILS ACCORDING TO FIELD IN WHICH
THE TOPICS CHOSEN FOR FOURTH THEME*

Field of Topic	Negro Pupils	White Pupils
Home activities.....	13	15
Athletics.....	22	6
Automobiles.....	2	13
School activities.....	5	7
Miscellaneous.....	7	8
Total.....	49	49

* One member of each group left school before the completion of the experiment.

vidual forms, word frequencies were determined. Different forms of the same word were considered as separate words. All proper nouns were tabulated in the same way as other words.

A total of 75,842 running words and 6,130 different words were tabulated from 397 themes. The colored pupils used 37,334 running words in 199 themes; the white pupils, 38,508 words in 198 themes. The colored pupils used an average of 187.6 running words to a theme and the white pupils an average of 194.5 running words.

Every white pupil, as previously indicated, was paired with a colored pupil of approximately equal age and intelligence quotient. Forty-eight pairs finished the total quota of themes. (One colored pupil and one white pupil from two pairs left school before the end of the experiment.) In twenty-six pairs the white pupil used more words than the corresponding colored member of the pair; and in

twenty-two pairs the colored pupil used more words than the corresponding white member. The shortest theme, containing 47 words, was written by a white boy with an intelligence quotient of 98; the next shortest theme was written by this boy's colored partner, who wrote 61 words. The longest theme, containing 707 words, was written by a colored boy. The longest theme written by a white pupil contained 462 words.

The colored pupils used 4,284 different words; the white pupils, 4,177 different words. There were 2,331 words common to both groups. The colored pupils used an average of 21.53 different words to a theme, while the white pupils used an average of 21.10 different

TABLE IV
DISTRIBUTION OF WORDS USED BY ONE GROUP ONLY
ACCORDING TO THEIR FREQUENCY OF USE

Frequency of Use	Number of Words Used by Negro Pupils Only	Number of Words Used by White Pupils Only
1-5.....	1,922	1,789
6-10.....	27	48
11 or more.....	4	9
Total.....	1,953	1,846

words to a theme. The white pupils, therefore, used more running words and fewer different words than the colored pupils. The latter group used a different word for every 9.2 running words; the white pupils, a different word for every 8.7 running words. In thirty pairs the white pupil used more different words than the colored member of the pair, while in eighteen pairs the colored pupil used more different words than the white member of the pair. It is apparent, therefore, that the white pupils who used more different words than their colored partners also used the same words as other white writers more frequently than the colored pupils used the words of other colored writers.

The colored pupils used 1,953 words not used by the white pupils. The white pupils used 1,846 words not used by the colored pupils. The frequencies of the words used by one group only are shown in Table IV. The following words were used eleven or more times by the colored pupils only: "Hamlet," "Ophelia," "uncle," and "Wash-

ington." The following words were used eleven or more times by the white pupils only: "paint," "brush," "certainly," "cleaning," "dye," "rich," "Tom," "Sawyer," and "simonize."

The following words were used from six to ten times each by the colored pupils only.

actions	hitters	pie
arms	innings	Polonius
baking	Janice	practice
Booker	Laertes	rifle
Brutus	Lulu	Roxana
Caesar	midget	secret
Claire	NRA	sling
Everyman	opponent	speed
garage	orders	truck

The white pupils only used the following words six to ten times each.

advise	friendly	soap
alley	grocery	sore
anybody	hood	sponge
attractive	hose	stick
bother	Judy	stores
branches	Kert	suddenly
bread	oil	trains
Browney	ought	transport
capital	pants	typewriter
chamois	raft	university
Chinese	rains	washing
coat	relations	wheat
Cuas	rich	wheel
dandelion	riches	windows
Denver	rub	wiped
Freckles	shine	witches

The words used by one group and not by the other are not important, since it is obvious that the use of the words by one group or the other was determined only by chance. The colored writers used 157 proper nouns which no white writer used, while the white writers used 158 proper nouns which the colored writers did not use. A comparison of these words showed nothing of importance. The colored pupils used thirteen words not found in the dictionary as against nine such words used by the white writers. An attempt was made to classify the words used by only one group, especially the nouns, but the classification showed no trend toward a definite pattern.

Only the forty-eight pairs who wrote all the themes were considered in determining the relation between intelligence and the number of different words used. In the case of the white pupils a correlation of $-.094$ suggests, if anything, a slight tendency for the writers of less intelligence to use more different words than do the more intelligent writers. For the colored pupils the correlation is $+.236$, which indicates a slight relation between intelligence and extent of vocabulary. The coefficient is so low, however, that it is apparent the colored writers of high intelligence did not consistently use more different words than those of lower intelligence.

SUMMARY

1. The groups of colored and white pupils whose writing vocabularies were studied in this experiment did not differ significantly with respect to chronological age, educational status, or intelligence quotient. If there was any difference in social background, it probably favored the white pupils.

2. The colored pupils used 37,334 running words in 199 themes; the white pupils, 38,508 running words in 198 themes. The white pupils, then, used slightly more running words per theme than the colored pupils.

3. The colored pupils used 4,284 different words in the 199 themes; the white pupils, 4,177 different words in 198 themes. After adjustment was made for the extra theme, it was evident that the colored pupils used a slightly larger number of different words.

4. Neither the total number of running words nor the total number of different words indicated any significant difference between the two groups with respect to word usage. Even if the differences had been significant, advantage for one group in one direction was offset by an advantage for the other group in another direction.

5. The white pupils used the same words as other pupils of their race more frequently than the colored pupils used the words of other colored writers.

6. Most of the words used by one group and not by the other were words of low frequency.

7. In general, no important differences in the writing vocabularies of the two groups were revealed by this study.

SELECTED REFERENCES ON HIGHER EDUCATION¹

JOHN DALE RUSSELL
University of Chicago

This list covers the period from July 1, 1933, to June 30, 1934. Titles pertaining to the education of teachers are not included but appear in the December number of the *Elementary School Journal*.

In the preparation of this selected list of references on higher education, 55 books and 312 articles, a total of 367 titles, were examined. The number of these that were worthy of inclusion was considerably larger than the number permitted by the available space; for that reason the selection has been, in part, along arbitrary lines. References to particular subjects of college instruction have been omitted as being of relatively limited interest. Yearbooks, proceedings, and annual reports of associations have not been included; most persons who will use this list need no specific reference to the contents of the annual publications of such agencies as the American Association of Collegiate Registrars, the American Association of Teachers Colleges, the Association of American Universities, the Association of University and College Business Officers, the Carnegie Foundation for the Advancement of Teaching, the College Entrance Examination Board, the General Education Board, the National Association of Deans of Women, and the Southern Association of Colleges and Secondary Schools. The attempt has been made to include one or more articles from most of the journals that publish materials in the field of higher education.

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566. HUGHES, R. M. "Report of the Committee on Graduate Instruction," *Educational Record*, XV (April, 1934), 192-234.
Presents a list of adequate and distinguished institutions in each field of graduate work, as determined by a jury of scholars in each field.
567. JONES, RUFUS M. *Haverford College—A History and an Interpretation*. New York: Macmillan Co., 1933. Pp. xii+244.
A dignified, well-written record of the development of a well-known American college.
568. KEELEY, MARY PAXTON, and CARPENTER, W. W. "College Publicity in the Daily Papers," *Education*, LIV (September, 1933), 49-53.
A study of the kinds of material about colleges most frequently published in certain daily papers of Missouri. Some principles for the management of college publicity are derived.

569. KELLY, FRED J. "How Higher Education Is Faring Financially at the Present Time," *Educational Record*, XIV (July, 1933), 353-60.
Presents data on the drastic reductions in budgets of state institutions of higher education throughout the country.
570. KELLY, ROBERT LINCOLN. "Some Successful Methods of Financing Colleges," *Bulletin of the Association of American Colleges*, XIX (November, 1933), 294-309.
A summary of reports from higher institutions concerning financial difficulties and their solutions.
571. KELLY, ROBERT L., and ANDERSON, RUTH E. "The Extent of the Divisional Development of the Curriculum," *Bulletin of the Association of American Colleges*, XIX (December, 1933), 418-24.
Discusses both horizontal and vertical division of the college curriculum and gives examples of such divisions in various institutions.
572. KINDER, JAMES S. *The Internal Administration of the Liberal Arts College*. Teachers College Contributions to Education, No. 597. New York: Teachers College, Columbia University, 1934. Pp. viii+160.
An analysis of the administrative practices of 116 colleges and 11 universities, in comparison with accepted principles of administration.
573. LEWIS, WILLIAM MATHER, BRAKELEY, GEORGE A., PALMER, ARCHIE M., and OTHERS. "Joint Conference of Colleges, Trust Institutions, Life Insurance, and the Bar," *Bulletin of the Association of American Colleges*, XX (May, 1934), 270-312.
A symposium of reports and addresses concerning methods of fund-raising, investments, etc.
574. LLOYD-JONES, ESTHER. "Personnel Administration," *Journal of Higher Education*, V (March, 1934), 141-47.
Describes what student-personnel administration is and shows its relation to general administration and to other personnel services.
575. MCHALE, KATHRYN, and SPEEK, FRANCES VALLANT (Editors). *Housing College Students*. Washington: American Association of University Women, 1934. Pp. x+96.
A series of papers discussing theoretical considerations underlying the construction and operation of college residence halls and giving brief descriptions of the housing plans of a number of institutions. Includes a selected bibliography of eighty-eight titles.
576. MACLEAN, MALCOLM S. "A College of 1934," *Journal of Higher Education*, V (May and June, 1934), 240-46, 314-22.
A discussion of the objectives, special courses, and results of the General College of the University of Minnesota as an experiment in adapting higher education to the youth of today.

577. MORRISON, ROBERT H. *Internal Administrative Organization in Teachers Colleges*. Teachers College Contributions to Education, No. 592. New York: Teachers College, Columbia University, 1933. Pp. x+184.
Derives criteria for the internal administration of teachers' colleges and measures present administrative practice against these criteria. Summary includes an optimum plan of administration for teachers' colleges. A bibliography is included.
578. NORTH CENTRAL ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS, COMMISSION ON INSTITUTIONS OF HIGHER EDUCATION. "Manual." Chicago: North Central Association of Colleges and Secondary Schools, 1934. Pp. 142 (tentative edition, mimeographed).
A statement of the policies that will be followed in the accrediting of institutions of higher education and the items of information that will be used in determining admission to membership in the association.
579. PEIK, W. E. "Curriculum Investigations at the Teacher-training, College, and University Levels," *The Curriculum*, pp. 199-213. Review of Educational Research, Vol. IV, No. 2. Washington: American Educational Research Association of the National Education Association, 1934.
A comprehensive review of recent productive research on the curriculum in higher education.
580. PERRY, CHARLES M. *Henry Philip Tappan—Philosopher and University President*. Ann Arbor, Michigan: University of Michigan Press, 1933. Pp. xii+476.
A biography of the first president of the University of Michigan, with particular reference to his university policies and educational philosophy.
581. RANDALL, OTIS E. *The Dean's Window*. Boston: Stratford Co., 1934. Pp. vii+324.
A discussion of the college student personnel service in all its phases, based on the author's experiences as dean of Brown University.
582. *Report on Functions of State Institutions of Higher Learning in Mississippi*. Nashville, Tennessee: Division of Surveys and Field Studies, George Peabody College for Teachers, 1933. Pp. 74.
A survey of the state-supported institutions of higher education in Mississippi, with special reference to the allocation of legislative appropriations.
583. SEYFRIED, J. E. *Youth and His College Career*. Albuquerque, New Mexico: University of New Mexico Press, 1933. Pp. xii+252.
A manual for use in both the secondary-school and the college orientation program. A selected bibliography is given.
584. SORENSON, HERBERT. *Adult Abilities in Extension Classes*. Minneapolis, Minnesota: University of Minnesota Press, 1933. Pp. vi+100.
An analysis of the significant psychological characteristics of extension students at the University of Minnesota.

585. STRATTON, DOROTHY C. *Problems of Students in a Graduate School of Education*. Teachers College Contributions to Education, No. 550. New York: Teachers College, Columbia University, 1933. Pp. x+168.
A study of the major personal and academic problems confronting graduate students at a well-known institution. Includes a selected bibliography.
586. *Trends and Issues Affecting Lutheran Higher Education*. Report of a Committee Representing the Higher Educational Institutions of the American Lutheran Conference. Studies in Lutheran Higher Education, Vol. I, No. 1. Minneapolis, Minnesota: Augsburg Publishing House, 1933. Pp. 80.
Considers the present status of the program of higher education maintained by Lutheran colleges and presents plans for the future. Includes a bibliography of 114 titles.
587. TYLER, TRACY FERRIS. *An Appraisal of Radio Broadcasting in the Land-Grant Colleges and State Universities*. Washington: National Committee on Education by Radio, 1933. Pp. xii+150.
This survey treats the following features of radio broadcasting in the land-grant colleges and state universities: the extent to which radio is being used, nature of programs, types and costs of equipment, financial outlay, types of organization, personnel employed, opinions of administrative officers, and the extent of research into broadcasting effectiveness. An annotated bibliography is given.
588. WELCK, ARTHUR ALBERT. *The Annuity Agreements of Colleges and Universities*. New York: A. A. Welck (88 Morningside Drive), 1933. Pp. xii+66.
Concerns the acceptance of funds subject to annuity, their classification and management, and the accounting for and reporting of funds subject to annuity. Gives a selected bibliography.
589. WERTENBAKER, THOMAS J. "Our Intellectual Graveyards," *American Scholar*, III (March, 1934), 171-79.
Asserts that many American colleges are intellectual graveyards because they do not provide the necessary stimulation to growth on the part of members of their faculties.
590. WILLIAMS, ROBERT L. "Alumni Relations," *Journal of Higher Education*, V (June, 1934), 327-31.
Presents the results of a survey of alumni relations in 106 American colleges, with particular reference to relations between the alumni organization and the collegiate administrative officers.
591. WORKS, GEORGE A., and OTHERS. *Report to the Board of Regents of the University System of Georgia*. Atlanta, Georgia: Walter W. Brown Publishing Co., 1933. Pp. ii+112.
A survey of the state-supported institutions of higher education in Georgia, with recommendations for consolidation and reorganization of the program.

Educational Writings

REVIEWS AND BOOK NOTES

Selectivity and democracy in secondary education.—The educational system of America, like its political system, is often considered more democratic than that of many other countries. Just what democracy means, either in education or in politics, is often only vaguely understood—and sometimes most vaguely by those most dramatic in proclaiming it. Kandel,¹ in the 1934 Inglis lecture, suggests that this situation holds in American secondary education and attempts to show how the situation developed and to suggest desirable possibilities for the future.

Liberty, equality, and fraternity are accepted as cornerstones of democracy, but democracy in education is considered mainly from the standpoint of equality of opportunity. Free secondary education is considered a pillar of democracy, and attempts to curtail it are regarded as futile. Yet the author feels that further extension of American secondary education means further differentiation of types of training and that, in view of the American principle of supplying cosmopolitan rather than differentiated schools, this extension means schools so large that individual pupils are overwhelmed and that personality development suffers.

Pointed criticism is directed at the attitude in American secondary education that "equality of opportunity" is synonymous with "identity of opportunity." The development of this attitude, which is considered widespread, is seen in the increase in enrolments; the use of the same schools for different social classes; widened curriculums; interchangeable credits based on time spent; the attack on formal discipline, which helps new subjects at the expense of the old; and in the resulting idea that all subjects have equal educational values. This development of the idea of identity of opportunity, combined with the right acquired by the Kalamazoo decision to levy taxes for secondary education and with the rapid growth in the country's wealth, explains the rapid expansion of the standard high school. In spite of the expansion of the high school, pupil-mortality studies led educators to the conclusion that schools were not meeting pupil needs and to the philosophy that all education must be based on immediate interests of learners.

¹ Isaac L. Kandel, *The Dilemma of Democracy*. The Inglis Lecture, 1934. Cambridge, Massachusetts: Harvard University Press, 1934. Pp. 80. \$1.00.

Democratizing has, consequently, meant a leveling downward and has led to a "tendency to sensationalism which is called progressivism and which arises from the cult of the tradition of rootlessness, which is called experimentation" (pp. 59-60). In contrast is European secondary education, where central control stimulates educational coherence. American neglect in training potential leaders is contrasted with European selective procedures. Selection on the basis of ability rather than the basis of social status is suggested for America, although no definite procedure of selection is outlined. The author appears to follow class-conscious European educators in his anxiety over an educated proletariat—an anxiety which arises largely from considering overcrowded professions. Here he loses sight of the needed "general education" in training for social leadership and understanding, which he admires in the *culture générale* of European systems, and thinks of further specialized vocational and professional education as inevitable in further extended secondary education. This view suggests a somewhat different function for American secondary education from that commonly considered to be encompassed by Grades VII-XIV.

The author's analysis of certain developments in American secondary education is concise and stimulating, and some of his comparisons with European education are persuasive. How to select future leaders is a problem which occupies many American educators. At this point, more than elsewhere, the treatise fails to meet anticipations. Several writers have sensed the need; none has shown the way. Many American educators would not look to Western Europe for suggestions at this point with as much comfort as does the author, particularly since European school systems grew out of socially stratified societies.

The ideas in this book are not new, in the main, but they are briefly summarized, clearly set forth, and fairly representative of the ideas of one group of American educators with regard to a redistribution of educational opportunity. The reviewer believes that the volume is worth the attention of teachers professionally interested in their work, students of the curriculum and of educational sociology, and students in related social sciences.

HAROLD H. PUNKE

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VALDOSTA, GEORGIA

School finance in France.—No student has been more prolific or scholarly in giving a picture and a critique of school finance in the United States than Professor Fletcher Harper Swift. Fortunately for students of education and especially for students of school finance, he has recently made excursions into the financial practices of school systems of certain European countries and has projected a series of volumes on these practices in Austria, Czechoslovakia, England, France, and Germany. The volume on France is here under review.¹

¹ Fletcher Harper Swift, *The Financing of Institutions of Public Instruction in France. European Policies of Financing Public Educational Institutions*, Vol. I. University of California Publications in Education, Vol. VIII, No. 1. Berkeley, California: University of California Press, 1933. Pp. xvi+180.

Professor Swift's opportunity to make at first hand these studies of foreign practices was facilitated by a generous grant from the General Education Board. After his return to the United States he received modest grants from the Carnegie Corporation of New York and from the University of California to be used in the preparation of his data for publication. Many of his data were collected through personal visitation of the schools, but most of the materials were secured through personal visitation of the ministries of education. Often he found data difficult to secure because of the lack of interest in statistics on the part of the ministries. He says of the attitude of the French Ministry: "Officials at the Ministry say frankly that they regard statistics as of little value and that in their opinion Americans and Germans alike are laboring under an unfortunate delusion as to the importance of statistical data" (p. 9).

The volume not only gives a critical description of the system of school finance of France but also portrays the main features of organization and administration of the entire educational system of that country. Thus, the reader is helped to see the financial policies in relation to the general plan of school organization and administration. The volume is replete with statistical data and interprets those data in an interesting and scholarly manner.

Students of education in the United States will find the author's descriptions of the following policies in France especially interesting: (1) the dual system of education; (2) the large degree of centralization of educational functions; (3) the complete fiscal dependence of the school system; (4) a policy of national support almost *in toto*; (5) the national system of *indemnités*, or supplementary allowances, designed to cover numerous personal, professional, and social obligations of school employees (for example, special allowances for sick leave, motherhood, pensions, moving expenses, house rent, and overtime services).

Whereas in the United States, during the recent world-wide financial stress, educational opportunities in many communities have been sadly curtailed or entirely eliminated, in France the national government has assured that no community would be unprovided with certain minimum educational standards. Probably we would not desire to imitate the French system of school finance *in toto*, but that system unquestionably has many features which we would do well to consider as worthy of adoption here. For these reasons and also because of the interesting and scholarly tone of the volume, this publication deserves reading by students of school organization and administration everywhere. It is certain to be regarded as a classic in school finance.

WARD G. REEDER

OHIO STATE UNIVERSITY

Further opinions about ability grouping.—In a recent publication¹ Sauvain has set forth the opinions of parents, teachers, principals, and other school officials

¹ Walter Howard Sauvain, *A Study of the Opinions of Certain Professional and Non-professional Groups regarding Homogeneous or Ability Grouping*. Teachers College Contributions to Education, No. 596. New York: Teachers College, Columbia University, 1934. Pp. viii+152. \$1.75.

concerning the results of ability grouping in the elementary school. In the initial phases of his investigation Sauvain solicited the co-operation of superintendents of schools in 109 cities, but only sixteen enlisted in the study. In these sixteen cities questionnaires revealed the trend of opinion to be substantially as follows: (1) Parents, teachers, principals, and other school officials believe pupils do better work in ability groups than in heterogeneous groups. (2) Parents believe that their children are at least as happy in ability groups as in heterogeneous groups. (3) Teachers believe pupils develop more desirable social attitudes in ability groups than in heterogeneous groups. (4) Principals cite advantages for ability grouping much more frequently than they cite disadvantages and believe that ability grouping makes administration easier and reduces disciplinary problems. (5) Other school officials believe that children at all levels of ability do better work in ability groups than in heterogeneous groups.

To readers familiar with the literature of homogeneous grouping these findings will occasion no surprise. A composite of the numerous less extensive studies of opinion made prior to Sauvain's study yields essentially the same results.

On the one hand, it is interesting to note that this most recent and extensive study of opinion confirms antecedent investigations. On the other hand, it is important to impress on the minds of producers and consumers of research in the field of refined classification that the questions of whether to group and how to group cannot be answered by appeal either to sudden thought or to that more or less organized form of prejudice which passes in some circles as well-founded philosophy.

Sauvain says of his study: "It would be a serious mistake to employ the results of this study in arriving at a decision in regard to the instituting or the abandoning of ability grouping within a given city" (p. 21). He later repeats this warning in the following words: "It is not recommended that the results of this study be used in determining policy as to the use or disuse of grouping" (p. 120). With this point of view the reviewer is in hearty accord. The effects of refined classification, reduced heterogeneity, or so-called "homogeneous grouping" on the educative growth of boys and girls can be determined only through arduously controlled experiment. Many different bases of grouping are now being advocated and used, and these are not likely to prove equally good or bad. What basis or what combination of bases is best? What types of pupils are benefited by grouping? It seems naive to presume that grouping is equally good or bad for all types of pupils.

The important questions relating to homogeneous grouping can be answered adequately only by judgment based on carefully derived objective data. They cannot be answered either by taking a plebiscite or by invoking intriguing but empty phrases, such as the "total personality" of the "whole child" (which by a vague hocus-pocus is supposed by some theorists to undergo a tragic dis-

integration when pupils are carefully and scientifically classified on the basis of their ability to succeed with their school work).

ROY O. BILLETT

BOSTON UNIVERSITY

An instructive and inspirational book for teachers of English.—A new book for English teachers,¹ in the judgment of the reviewer, is primarily a teacher's manual, and, while it will serve as an excellent source of reference material, to place it indiscriminately in the hands of high-school pupils would be to disregard the age-old custom of providing milk for babes and reserving the meat for those who are more mature. However, in view of the fact that the book is the product of a geographical section wherein even the modified rules of the College Entrance Examination Board demand a more or less technical knowledge of English, it may be only natural that much of the book should be made up of what is, properly speaking, literary criticism.

While the book contains a few implications of a liberal attitude on the part of its authors, the reader finds himself regretting that they do not speak out boldly for a more liberal interpretation of the term "literature" instead of seeming to adhere rather slavishly to *belles lettres*. There seems to be a reluctance to include, among the numerous selections used as illustrative material, any material from those humbler writers whose works, although not acclaimed by the critics, are a part of the voice of England and America, no less than are those of the so-called "great poets," "great dramatists," and "great novelists."

Although the book presents nothing new in the fields covered, it does present in a charming way the essential facts concerning the literary units under consideration. Moreover, it presents in a concise and logical form material which ordinarily must be sought from numerous sources. In other words, the book, while not an anthology, a bibliography, a history of literature, nor a treatise on literary criticism, serves the purpose of all without possessing the tediousness of any.

Of the more than five hundred pages of the book, 173 pages are devoted to a discussion of poetry, the following topics being treated: enjoying poetry, the distinction between poetry and prose, sharing the poet's world, the use of word pictures and word sounds, figures of speech, understanding the poet's symbols and images, grasping the thought in poetry, the music of poetry, the rhythm of poetry, and distinguishing the various patterns of poetry. In their discussion of each of these topics the authors have used, as illustrative material, copious extracts from standard writers; and, whether or not the reader always agrees with the conclusions or the fitness of the material, he must appreciate the method. The reader will probably feel that too much stress has been placed on poetry, that this particular literary unit might have been as adequately treated in much less space.

¹ Ralph P. Boas and Edwin Smith, *Enjoyment of Literature*. New York: Harcourt, Brace & Co., 1934. Pp. xviii+554. \$1.60.

The section devoted to a discussion of prose fiction is well written, the chapters on reading fiction, realism and romance, and why books live being especially well organized and presented. Again, however, to the teacher of English this section is helpful, not for any new material, but for the concise presentation of the essential features.

The section on the essay and other non-fiction is perhaps the most helpful part of the book. Here the authors are more specific, and their discussions are within the easy comprehension of high-school pupils. The most interesting parts of this section are the chapters on how to study biography and on miscellaneous types of prose non-fiction.

The part of the book which is devoted to a discussion of the great writers is open to the same criticism to which any anthology may be subjected: that perhaps not all the writers selected are qualified to come under the classification. It must be admitted, however, that practically all the writers listed by Boas and Smith as "great poets," "great dramatists," "masters of the novel," and "great essayists" would, according to almost any standard of excellence, qualify as superior writers.

Two commendable features of this book are the numerous well-chosen bibliographies listed throughout under the caption "Problems in Appreciation" and the liberal use of illustrative material from American writers. Although the book is considerably thicker between covers than it needs to be, it is, in the judgment of the reviewer, an excellent compendium of literary history, source material, and criticism. It should be in the hands of every teacher of English and on the shelves of every high-school and junior-college library.

VINCENT A. DAVIS

KANSAS STATE TEACHERS COLLEGE
EMPORIA, KANSAS

A textbook in vocational guidance for advanced students.—The course in vocations which Professor Neuberger has been teaching at Wittenberg College, Springfield, Ohio, for the past six years has been published in book form.¹ The author assumes "that, before a person makes a vocational choice, he should have (1) the right motive towards vocations; (2) complete information about the occupation in question; and (3) reliable information about himself" (p. xxii). The book is organized to meet these three objectives. The first five chapters endeavor to develop the correct vocational motive in the reader. Chapter vi gives a method for acquiring information about a vocation. The following three chapters concern the study of the individual. The final chapter discusses preparation for, entering on, and progressing in, a vocation. At the conclusion of each chapter and in the Appendix, extended bibliographies are given.

The fact that many advanced students are uncertain of their vocational aims places on school and college administrative officers a problem not readily solved.

¹ Maurice J. Neuberger, *Principles and Methods of Vocational Choice*. New York: Prentice-Hall, Inc., 1934. Pp. xxxiv + 302. \$2.25.

Professor Neuberg is one of the first to offer course material in "vocations" or "careers" for advanced students. What he has taught his students will prove interesting and helpful to others.

The title of the book unfortunately leads one to expect treatment of a type of material which the book does not contain. The mention of "principles of vocational choice" leads one to expect discussions of those fundamental truths, maxims, axioms, or settled procedures that would make of vocational guidance an exact science. Instead, the author's use of the word "principle" more nearly conveys the idea of a rule of procedure. For example, the author states, "One principle that must be observed throughout this course is that the instructor must never attempt to influence any student in making his vocational choice" (p. xxix). The other "principles" which he states are comparable to this one.

The author's emphasis on social service when he attempts to establish a vocational motive in the mind of the reader is commendable. Too often vocational guidance emphasizes the individual benefits derived from an intelligent choice of vocation. The outline to be used for gathering information about a vocation is thoroughgoing and well organized. In presenting the sources of vocational information, the author fails to mention vocational analyses, such as have been made for vocational-training purposes. The reviewer has found this source very valuable.

The study of the individual includes a discussion of the unscientific approach of phrenology, physiognomy, and astrology, and a discussion of the merits of scientific measurement of aptitudes, specific skills, general intelligence, and other personal traits. Vocational counseling is valuable to students even if it does nothing more than inform them of the fallacies of earlier approaches to the study of the individual. The attempts which have been made to measure abilities scientifically should be stated without enthusiasm or prejudice. The author seems to have accomplished both these purposes.

The bibliography of biographies is a valuable contribution to the literature of vocational counseling. The collateral readings following each chapter are too inclusive to be of significance to the average student. It would seem that a critical selection which would guide the student to three or four of the most worth-while articles would be of greater service to him. Providing so elaborate a body of reference material gives the impression that the book was intended for vocational counselors rather than for general use by students.

Those who are confronted with the problem of providing high-school Seniors or college students with vocational counseling will find in this volume some valuable material.

ROBERT C. WOELLNER

Mental hygiene for college students.—The popularity of those kindred phases of psychology variously named "mental hygiene," "psychology of behavior problems," "psychology of non-typical children," or "abnormal psychology" is attested to by the number of books dealing with these subjects. In the process

of continually fractionating the field, books purporting to apply to restricted populations are appearing. *Keeping a Sound Mind*² is avowedly for the college student. In this book Professor Morgan has covered many of the conventional mechanisms and topics of interest to mental hygienists in simple non-technical language and with an original and interesting approach. Among the fourteen chapters are chapters devoted to mental conflicts, mastery of fear, emotional maturity, counteracting defects, crime, overcoming emotional depressions, correct thinking, and getting along with people.

There is much in the book to commend to college students and others whose mental processes are not greatly disturbed but who might profit by an understanding of the nature of mental aberrations. It would be fortunate, indeed, if all of us could learn the technique of correct thinking. If I am not mistaken, development of this technique is an outstanding objective of education in general and of college education in particular, and recent criticism of the colleges would indicate that it is far from being a problem of mental hygiene in any limited sense. Most appropriately the author discusses how to study—that much discussed topic in textbooks of general psychology, educational psychology, method, and hygiene.

To the reviewer the outstanding characteristics of the book are its non-technical language; the inclusiveness of the topics and mechanisms and forms of behavior of interest to those concerned with avoiding maladjustment, serious or slight; and its individualistic tone. While the attempt to introduce each chapter with a spirited incident became obvious and tiresome to the reviewer, it may not so affect every reader. The book, if used correctly, should be of value to a host of young people to whom the problems of mental hygiene are new. To use the book correctly would seem to offer no little difficulty.

A book must be judged in its entirety. The present volume, then, is an amazing example of failure to see the individual as inseparable from his environment. A few illustrations will serve to reveal the spirit of the book: "If you are unhappy, you may be sure that there is something wrong in your mental life. The unhappy are always wrong" (p. 6). It needs no bizarre illustration to show the untenableness of such a statement, which might have passed unchallenged a decade ago. In a country where millions of the population could call themselves happy only by deserving the term "cheerful idiots," such a statement not only merits criticism but may do untold damage. The qualifications following on page 7 are woefully inadequate. No less dogmatic, though slightly less obvious, is the statement that disillusionment and disappointment "should mean only that we have miscalculated" (p. 11). When the ablest sociologists, the ablest economists, the ablest financiers fear to calculate where we are going, this statement is inexcusable, even from a psychologist. On pages 10, 31, 112, 166, and 423, we are told that life is a game; chapter iv tells us what to *fight* for and

² John J. B. Morgan, *Keeping a Sound Mind*. New York: Macmillan Co., 1934. Pp. x+440. \$2.00.

chapter v how to *fight*. The following quotation ably characterizes all this infantilism:

Investigation further shows that such nervous reactions *in man* lead to non-survival, pathological states of general *infantilism*, infantile private and public behavior, infantile institutions, infantile "civilizations" founded on strife, fights, brute competitions, these being supposedly the "natural" expression of "human nature" as different commercialists and their assistants, the militarists and priests, would have us believe [Alfred Korzybski, *Science and Sanity*, p. 41. New York: International Non-Aristotelian Library Publishing Co., 1933].

The whole spirit of Morgan's book is to put the burden of maladjustment on the individual. This procedure is wholly out of tune with present trends in science and psychology, which are emphasizing the organism-as-a-whole concept from biology, the concept of a social organism from sociology, and especially that of configuration which allows no such "elementalistic" interpretation. None of these seems to have greatly affected the present volume. This book fits better into the interpretations current in the twenties than into the current interpretations. Because of this emphasis on the individual, one must in all fairness raise the question whether, unless guided by an able teacher, the perusal of such a book might not build up more mental conflict than it alleviates, especially today when on many campuses from 15 to 25 per cent of the students are on a dole and twenty millions of the general population are on relief.

A. H. TURNEY

UNIVERSITY OF KANSAS

An English contribution to the amateur stage.—Two English schoolmasters are collaborators in a book¹ designed to be of "comprehensive practical use" in the production of plays, whether by amateur societies or in schools. The volume is a testimony to the parallel activity in England of amateur dramatics, the significance of which grows season by season in America. The reviewer is not familiar with the extent of British publications on this subject; there may be many others which have not reached these shores but which should be taken into account in an ideal review. The pages of the *School Review* have, however, dealt in the past two or three years with some of the many American volumes on the subject, and it is with these that this publication must perforce be compared.

It must be said that, on the whole, the imported volume does not come off well in such a comparison. No taint of chauvinism, it is hoped, will cling to a statement that there is nothing of practical use in the English work which cannot be found in American publications. The first chapter, dealing with the producer, does indeed contain an interesting résumé of the development of producing, particularly on the modern stage. This discussion, by means of its numerous quotations from, and references to, the best in stage literature, has an

¹ M. V. C. Jeffreys and R. W. Stopford, *Play Production for Amateurs and Schools*. London: Methuen & Co., Ltd. (New York: E. P. Dutton & Co., Inc.), 1933. Pp. xviii+200.

awareness and a scope which are most suggestive to the reader. But the chapters on the very practical angles of play-producing, such as settings, the stage itself, lighting, scenery, costume, and makeup—chapters which form the bulk of the book—do not in print give promise of fulfilling the authors' avowed aim of practicality. Failure to define unfamiliar terms and vagueness in the directions contribute to this result. Furthermore, the directions embrace so many separate activities that they are incomplete, and a general air of spottiness prevails.

A list of selected plays, composed largely of familiar, standard works, is given an entire chapter.

In conclusion, then, it may be said that, although the volume under review would prove of interest to any person engaged in amateur dramatics, it is not urged that organizations desiring to form an inexpensive library include it in preference to certain American books recommended in previous issues of the *School Review*.

LOUIS TRAVERS

WASHINGTON JUNIOR HIGH SCHOOL
DULUTH, MINNESOTA

Progressive mechanical drawing.—In the case of a line of work long existent in industry and firmly established in many schools, there is often little thought of the need or the opportunity for change in either content or method. It is coming to be generally recognized, however, that all the processes of industry, including those in drafting, are capable of analysis into their component parts. The analysis may be made from the standpoint of production and result in a given order or arrangement of units. On the other hand, an analysis made from the point of view of the learner may produce amazingly different results, particularly in arrangement.

Before much attention was given to the potential differences between the order of procedure in production and the most desirable learning sequence, the order set up for the learner was usually that taken bodily from production experience. A still further learning difficulty was often presented because insufficient attention was given to the sequential relations of units of thought or performance. Finally, there existed for too long a time the assumption that manipulative processes could be learned or acquired almost solely through imitation. It has remained for such educators as Hoelscher and Mays to discover the vital points of distinction between production and learning and to present the material for use in the learning situation. Their recent book¹ is conveniently arranged in two main parts which serve adequately for the two semesters of a second year's work in mechanical drawing. Furthermore, each part is divided into seventeen well-selected units, each of which may form the foundation of a single week's work.

The plan and the contents of Part I assume a fundamental knowledge of ele-

¹ Randolph Philip Hoelscher and Arthur Beverly Mays, *Basic Units in Mechanical Drawing*, Book II. New York: John Wiley & Sons, Inc., 1934. Pp. x+278. \$1.60.

mentary mechanical drawing and of the principles and the practices involved. The units presented cover the following general divisions: (1) lettering; (2) geometrical construction; (3) intersections; (4) developments; (5) typical industrial applications; (6) assembly drawings; (7) special adaptations, such as line shading, charts, and diagrams; and (8) specialized methods of graphic reproduction. Part I is really a volume in itself, with a well-defined beginning and ending, made up of carefully selected and concisely presented units.

The first portion of Part II suggests a reiteration of a similarly placed portion of Part I, in that it covers some of the same principles. There exists, however, in each reappearing unit a fine realization of new accomplishment through more difficult applications than those presented in Part I. Beyond the advanced application of familiar principles, Part II proceeds into the various forms of projection, covers technical usages approaching the character of engineering drawing, and closes with a unit on rendering.

The entire book presents an excellent embodiment of a keen understanding of analysis and organization for instruction and learning. Each single unit proceeds definitely from the known to the unknown in a manner which, if followed, will practically eliminate failure of understanding or performance. In the same way Part II, as a whole, advances into unknown fields of knowledge and manipulation with the groundwork of Part I as a starting point. At the beginning of each unit there is a short and clear statement of the purpose of the unit. Practical application of principles in actual use is emphasized and set forth in appropriate connections. The uniform order of presentation maintained throughout the various units contributes further to the ease of grasping each unit and eliminates the confusion of mind likely to arise from variation. The quality of drawing used is of a high technical standard, and the nature of the descriptive and illustrative matter exceedingly appropriate.

The work is progressive in every sense. By its very nature, it exemplifies a logical presentation of learning units which insures regular progress for the pupil. Compared with past works in the same field, it sets a standard of educational excellence which is unmistakably a step forward.

DEAN M. SCHWEICKHARD

MINNEAPOLIS PUBLIC SCHOOLS

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- Edited by William S. Gray. Chicago: University of Chicago Press, 1934. Pp. viii+188. \$2.00.
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- MORGAN, JOHN J. B. *Child Psychology*. New York: Farrar & Rinehart, Inc., 1934 (revised). Pp. xii+502.
- SANDERS, BARKEV S. *Environment and Growth*. Baltimore: Warwick & York, Inc., 1934. Pp. xviii+376. \$4.00.
- SEGEL, DAVID. *Differential Diagnosis of Ability in School Children*. Baltimore: Warwick & York, Inc., 1934. Pp. viii+86. \$1.40.
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- Pamphlet No. 49 (1934)—*Teachers' Problems with Exceptional Children: III. Mentally Retarded Children*, by Elise H. Martens. Pp. iv+42.
- Vocational Education Bulletin No. 173 (1934), Trade and Industrial Series No. 51—*The Development of Social Intelligence through Part-Time Education: A Study Made for the Committee on Part-Time Education of the American Vocational Association*. Pp. x+68.
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